

AD-A154 062

20000811020

NAVAL POSTGRADUATE SCHOOL
Monterey, California



THESIS

DTIC
ELECTE
MAY 23 1985
S A D

DTIC FILE COPY

THE ANALYSIS OF SOVIET MILITARY MANPOWER

By

Leon G. Berlin

December 1984

Thesis Advisor

D. C. Daniel

Approved for public release; distribution unlimited.

20000

Reproduced From
Best Available Copy

85 04 21 049

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER	2. GOVT ACCESSION NO. AD-A154060	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) The Analysis of Soviet Military Manpower		5. TYPE OF REPORT & PERIOD COVERED Master's Thesis: December 1984
		6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s) Cem Gurdemiz		8. CONTRACT OR GRANT NUMBER(s)
9. PERFORMING ORGANIZATION NAME AND ADDRESS Naval Postgraduate School Monterey, California 93943		10. PROGRAM ELEMENT PROJECT, TASK AREA & WORK UNIT NUMBERS
11. CONTROLLING OFFICE NAME AND ADDRESS Naval Postgraduate School Monterey, California 93943		12. REPORT DATE December 1984
		13. NUMBER OF PAGES 151
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)		15. SECURITY CLASS. (of this report) UNCLASSIFIED
		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE
16. DISTRIBUTION STATEMENT (of this Report) Approved for public release; distribution unlimited		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) USSR, Soviet Union, Military manpower, Demographic structure of USSR, Morale, Readiness, Human factor and military, Conscription in USSR, Officer corps, Performance appraisal in Soviet military, Training and education, Mobilization.		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) The effectiveness of any military force can be determined by the capabilities and reliability of its individual members. This has always been the primary concern for military strategists and decision makers. Prediction of human performance is still a problem for the administrative science area as well as military manpower area. Having such a big armed force, the Soviet Union confronts manpower problems which can affect overall military effectiveness. This thesis investigates the qualitative and quantitative problems of Soviet		

DD FORM 1 JAN 73 1473

EDITION OF 1 NOV 65 IS OBSOLETE
S N 0102-LP-014-6601

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

military manpower. It looks at Soviet demography, manpower availability, ethnic issues, training and education. It also attempts to appraise the performance of the Soviet soldier.

Accession For	
NTIS GRA&I	<input checked="" type="checkbox"/>
DTIC TAB	<input type="checkbox"/>
Unannounced	<input type="checkbox"/>
Justification	
By	
Distribution/	
Availability Codes	
Dist. Avail and/or	
Dist	Special

AI



S N 0102-LF-014-6601

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

Approved for public release; distribution is unlimited

The Analysis of Soviet Military Manpower

by

Cem Gurdeniz
Lt. Jg., Turkish Navy
B.S., Turkish Naval Academy, 1979

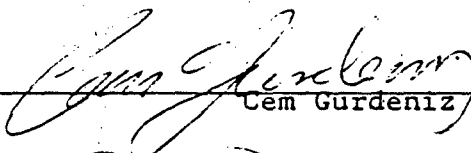
Submitted in partial fulfillment of the
requirements for the degree of

MASTER OF SCIENCE IN MANAGEMENT

from the

NAVAL POSTGRADUATE SCHOOL
December 1984

Author:


Cem Gurdeniz

Approved by:

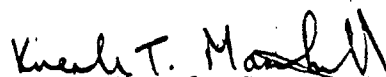


D. C. Daniel, Thesis Advisor


T. Swenson, Co-Advisor



Willis R. Greer, Jr., Chairman,
Department of Administrative Sciences



Kneale T. Marshall,
Dean of Information and Policy Sciences

ABSTRACT

The effectiveness of any military force can be determined by the capabilities and reliability of its individual members. This has always been the primary concern for military strategists and decision makers. Prediction of human performance is still a problem for the administrative science area as well as the military manpower area. Having such a big armed force, the Soviet Union confronts manpower problems which can affect overall military effectiveness. This thesis investigates the qualitative and quantitative problems of Soviet military manpower. It looks at Soviet demography, manpower availability, ethnic issues, training and education. It also attempts to appraise the performance of the Soviet soldier.

TABLE OF CONTENTS

I.	INTRODUCTION	10
A.	IMPORTANCE OF HUMAN FACTOR IN ASSESING MILITARY CAPABILITIES	11
B.	BACKGROUND ON SOVIET MILITARY FORCES	16
1.	The Strategic Rocket Forces	17
2.	The Ground Forces	18
3.	The National Air Defense Forces	19
4.	The Air Forces	20
5.	The Navy	22
II.	MANPOWER POOL	24
A.	DEMOGRAPHIC STRUCTURE OF SOVIET UNION	27
B.	MANPOWER AVAILABILITY AND DISTRIBUTION	34
C.	ETHNIC CONFLICTS	36
1.	Military Participation of the Ethnic Groups	38
2.	Some Characteristics of the Armed Forces from an Ethnic Perspective	42
III.	MECHANISMS FOR DRAWING ON MILITARY MANPOWER POOL.	45
A.	MANPOWER PLANNING	49
1.	Military Commissariats	51
2.	Dosaaf	53
B.	CADRES, CONSCRIPTION AND SERVICE REQUIREMENTS	56
1.	Cadres	56
2.	Conscription	59
C.	ATTITUDES TOWARD THE MILITARY AND MILITARY SERVICES	61

	D. WOMEN IN THE SOVIET ARMED FORCES	65
IV.	TRAINING AND EDUCATION.	67
	A. CIVILIAN SCHOOLS AND MILITARY TRAINING.	68
	B. MILITARY TRAINING AFTER INDUCTION.	72
	1. Training of Enlisted Personnel and Warrant Officers.	72
	2. Training and Education of Officers.	77
	C. POLITICAL INDOCTRINATION IN SOVIET MILITARY	88
	D. PARTY AND THE KOMSOMOL (YOUNG COMMUNIST LEAGUE) IN MILITARY.	91
V.	PERFORMANCE APPRAISAL: CHARACTERISTICS OF SOVIET SOLDIER.	94
	A. PATRIOTISM OF SOVIET SOLDIER	96
	B. PSYCHOLOGY AND MORALE OF THE SOVIET SOLDIER.	98
	C. INITIATIVE AND PHYSICAL STRENGTH OF THE SOVIET SOLDIER	101
	D. LEADERSHIP AND MOTIVATION TO FIGHT.	105
	E. TECHNICAL PROFICIENCY AND ABILITY TO LEARN	107
	F. MILITARY ATMOSPHERE AND DISCIPLINE.	111
VI.	PERFORMANCE APPRAISAL: READINESS	114
	A. RESERVE DUTY AND MOBILIZATION	116
	B. CIVIL DEFENSE	121
VII.	CONCLUSION	125
	A. COMMAND STRUCTURE AND CONTROL	126
	B. ETHNIC COMPOSITION AND RELATED PROBLEMS	127
	C. MOBILIZATION AND RESERVES EFFECTIVENESS	130
	D. TRAINING AND INDOCTRINATION	130
	E. SELECTION AND PROMOTION	133
	F. OFFICER CORPS	133

G. COMBAT READINESS	134
H. MAN MACHINE MIX	135
I. FINAL CONCLUSIONS	135
LIST OF REFERENCES	139
INITIAL DISTRIBUTION LIST	151

LIST OF TABLES

I.	1979 POPULATION OF THE USSR AND ITS COMPOSITION (IN MILLIONS)	29
II.	A TYPICAL DAY IN THE LIFE OF AN INDUCTEE	74
III.	PRIOR OCCUPATION OF 1000 ARMY LIEUTENANTS	79
IV.	GROUND FORCES MILITARY PREPARATORY SCHOOLS	84
V.	OFFICER SCHOOLS, TYPES AND THEIR NUMBERS	85
VI.	OFFICER SCHOOLS, TYPES AND THEIR NUMBERS.(CONTD.)	86
VII.	SOVIET MILITARY COLLEGES	89
VIII.	RESERVE SERVICES FOR SOLDIERS AND SAILORS	117

LIST OF FIGURES

1.1	Flowchart of the Thesis Methodology	15
2.1	The Political Map of the USSR	33

I. INTRODUCTION

"...of themselves, weapons and military equipment do not determine the success of combat operations. What is important is in whose hands they are. We know that man was and remains the decisive force in war. Neither a missile, nor a plane, nor a tank....nothing is so formidable for the enemy as a soldier who has high combat morale and military expertise, who is capable of skillfully employing weapons and equipment and using their combat properties to the full extent to defeat the enemy and win the victory." [Ref. 1]

A.A.Grechko

Churchill called the Soviet Union 'an enigma wrapped inside a riddle'. The end of the cold war, detente, and growth of east west contacts have not significantly diminished the hazards facing the analyst of the Soviet scene. [Ref. 2]

This thesis will seek and examine the issues which affect the fighting capability of today's Soviet soldier, sailor and airman. Because of the human factors which make the predictions and statistical inferences difficult (due to the non availability of statistical data to analyze human activities in the Soviet Military) a literature survey will be utilized in this thesis.

It has been said more than once that while we know a great deal about the manpower composition of uniformed elements of the Soviet Army, we know little or nothing about the operations of the Soviet military system at large. Generalizations about military manpower will not suffice nor will the transposition of Western terms and Western perspectives into the Soviet scene provide anything like a satisfactory answer.

In this thesis, manpower analysis methodology will be utilized by investigating the economically and bureaucratically efficient management of a peacetime armed force operating on a steady-state basis and the combat effectiveness of that peacetime force during mobilization or war. In other words the model which is used to analyze Soviet military manpower will be applied first to the general manpower issues and then to the questions of readiness and combat effectiveness.

A. IMPORTANCE OF HUMAN FACTOR IN ASSESING MILITARY CAPABILITIES

As long as wars remain possible, military forces will exist. Military forces can be defined as the protective mechanisms of an organic existence called the "state." Military capabilities are one of the many capabilities which are possessed by the state. They constitute a synthesis of quantitative and qualitative many factors, ranging from available weapons, to the personnel who use them.

The true test of military capabilities is combat readiness. Combat is keystone determinant of any war. Any means of war is implemented to accomplish combat missions. The accomplishments of combat missions lead a military force to the victory which is the overall objective of military strategy.

In the book Basic Principles of Operational Arts and Tactics, the author, Vasilii Savkin deals with the concept of combat effectiveness as following:

In the course of an operation or battle the combat effectiveness of troops must be constantly maintained at the level which ensures successful accomplishment of assigned combat missions. And he continues, As we know, the combat effectiveness of troops is understood to mean the capability of troops to conduct decisive combat operations and fully accomplish the combat mission to destroy the enemy under any conditions. Preservation of combat effectiveness is a most important principle of operational art and tactics which ensures the attainment of victory in a battle or operation. If it is

violated it is practically inconceivable to apply all other principles of operational art and tactics, inasmuch as troops who have lost combat effectiveness cannot conduct successful combat operations. [Ref. 3]

The word readiness is fraught with conceptual and definitional problems. Meaningful measurement of the elusive quality of readiness is equally difficult. For many strategists and military analysts, the word "readiness" implies the capability, with a degree of confidence, of winning any war, fought any place at any time. If a military force cannot respond to a threat, it is not combat ready.

Readiness is a function of many variables, including resources. These must be configured and allocated in such a way to maximize the probability that operational requirements will be met. Numerous manpower and training configurations to accomplish a particular end are possible by alternate manning mixes and quality levels, specific personnel policies, length and type of training, job designs and team composition. Relationships among variables must be understood in order to make choices of the optimal configurations. [Ref. 4]

Readiness is unpredictable and it is difficult to determine its elements. The quality of a nation's military manpower is most difficult to evaluate and predict. Military history is full of many interesting and surprising examples of misunderstandings and miscalculations of this factor and many defeats as the consequences of this.

To a significant degree military manpower analysts confront methodology problems. One question to ask is whether the military manpower analyst is interested in investigating (1) the economically and bureaucratically efficient management of a peacetime armed force operating on a steady state basis or (2) the combat effectiveness of that peacetime force during mobilization or war.

Before beginning his work, a manpower analyst should take into consideration the following questions.

1. Is he interested in peacetime efficiency of a stable force?
2. Is he interested in the relationship of peacetime manpower policies to warfighting capability?
3. Is he interested in the immediate combat readiness and effectiveness of forces in being?
4. Is he interested in mobilization potential of this nation?

This thesis will seek the answers to these four questions. The first question will be dealt by examining the current structure of Soviet Armed Forces and the manpower pool which supplies armed forces and civilian labor force. Also, the military management and administration in terms of military manpower issues will be examined.

The second question is primarily related with the training, education and indoctrination of Soviet military manpower. This question is also function of personnel policies like recruitment, selection, placement, promotion and compensation. The peacetime manpower policies are the inputs of warfighting capabilities. The objectives of training and education are to prepare the men to fight. Any change of these peacetime training and education policies will affect the potential warfighting capabilities.

The third question addresses "how well the Soviet soldier does as a professional" and "what are his weak and strong points in terms of his potential combat readiness." Although it is very difficult to evaluate combat readiness, this thesis will consider evidence relating to the Soviet soldier's morale, psychology, physical strength, patriotism, initiative, motivation to fight, and leadership, these being potential determinants of immediate readiness and effectiveness of forces in being.

The fourth question will prompt the manpower analyst to analyze the overall mobilization capability of the Soviet Union in case of a total war. Here, the analyses of past events and Soviet version of mobilization process and civil defense will be the main themes. The methodologic flowchart of this thesis is shown in Figure 1.1.

In order to answer above questions, data obtained mainly from following sources will be used and analyzed:

1. Writings of western experts on Soviet military manpower.
2. Writings of Soviet military experts on general military issues.
3. Translations of Soviet newspapers and periodicals.
4. Western newspapers and periodicals.
5. The final reports of western seminars and conferences on Soviet military manpower and relevant issues.
6. Reports of civilian and military institutions of strategic research and analysis.

The manpower analyst is also encouraged to keep his eyes on the intangible disciplines of history, and philosophy, as well as the more concrete ones of management, administration, and economics/finance. In dealing with human--as opposed to material -- factors, a predisposition for the humanities is useful, to assist in understanding the unpredictability, seeming irrationality, and frequently emotional roots of how a country raises and uses its armed forces. [Ref. 5]

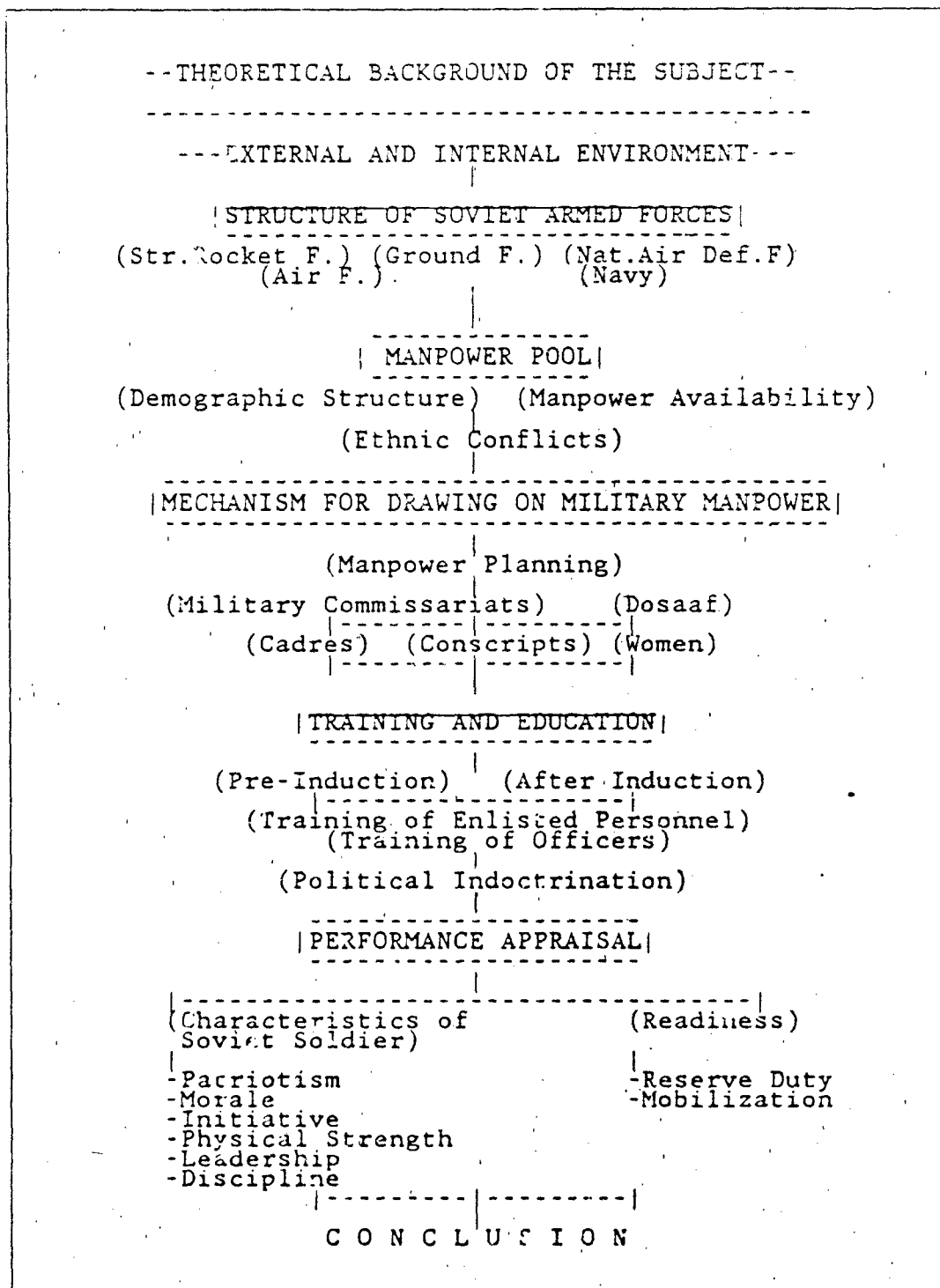


Figure 1.1 Flowchart of the Thesis Methodology.

B. BACKGROUND ON SOVIET MILITARY FORCES

The Soviet Union has five major services which include, the Strategic Rocket Forces, the Ground Forces, The National Air Defense Forces, the Air Forces, and the Navy. Additionally, there are the Rear Services which are Border Guards, Internal Security Guards, Railroad and Construction Troops, and Command and General Support Troops.

The current structure of the Soviet Armed Forces has slowly evolved since the end of World War II. The revolution in military affairs that began in the 1950s "evoked changes" in the organizational structure, in the correlation of the services of the Armed Forces, and of the branches of service. One direct result was the formation of a fifth service in 1959, the Strategic Rocket Forces. At the present time the armed forces of the majority of states are divided into services; ground forces, air force, and naval forces. In the Soviet Union, the Strategic Rocket Forces and the Troops of National PVO (Protivovozdushnoy Voyska Oborony- National Air Defense) are also separate services of the armed forces. [Ref. 6]

The five services --Ground Forces, Strategic Rocket Forces, Air Forces, Troops of National Air Defense, and Navy-- are directly under the control of the Ministry of Defense, as are the Troops of the Tyl (Rear Services), and the Troops of Civil Defense. Border Troops, however, are under the Committee of State Security (KGB), and the Internal Troops come under the Ministry of Internal Affairs (MVD). It is almost impossible to compare the Armed Forces of the Soviet Union with any other country's Armed Forces. Each of five services, with the exception of the Strategic Rocket Forces, is made up of different arms of service. As will be shown below, in the Ground Forces there are seven, in the Air Defense Forces three, in the Air Forces three,

and in the Navy six different arms of services. The Airborne Forces constitute a separate arm of service, which is not part of the complement of any of the main Services.

1. The Strategic Rocket Forces

This is the newest and the smallest force of the five Armed Services. It is also the most important component of the Armed Forces from an overall strategic nuclear capabilities perspective. Therefore, it is mentioned first in Soviet references. The SRF was established as an independent Service in 1959. At its head is a Commander-in-Chief with the title of Marshal of the Soviet Union. Under his Command are three Rocket Armies, three independent Rocket Corps, ten to twelve Rocket Divisions, three sizeable rocket ranges and a large number of scientific research and teaching establishments. [Ref. 7]

The total strength of the SRF is about 322,000 active personnel, 51,000 civilian personnel, and 616,000 reserve personnel (total 989,000). [Ref. 8]

The SRF is both an operational and an administrative organization. In peacetime its Commander-in-Chief is responsible to the Minister of Defense on all administrative questions and to the Politburo on all aspects of the operational use of rockets. In wartime the SRF would be controlled by the Defense Council, through the Supreme Commander. A final decision on the mass use of strategic rockets would be made by the Defense Council.

Military personnel to be drawn to the SRF are highly trained and educated. Approximately 100 percent of the SRF personnel are specialized¹ due to the nature of their jobs and 66 percent of the overall missile personnel are first

¹There are three different class ratings for specialties. Personnel in each of five services are under strong pressure to move from a third class to a second class and then to first class specialist rating.

and second class specialists. Additionally more than half of the personnel have a second specialty.

2. The Ground Forces

The Ground Forces are the oldest, the largest, and the most diversified of the services making up the Armed Forces of the Red Army. In peacetime their strength totals approximately 2,840,000 active personnel, 305,000 civilian personnel, 5,091,000 reserve personnel, but mobilization would bring them up to between 21 and 23 million within ten days. They contain seven arms of services: [Ref. 9]

These include: (1) Motor-rifle Troops; (2) Tank Troops; (3) Artillery and Rocket Troops of the Ground Forces; (4) Air Defense Forces of the Ground Forces; (5) Airborne Assault Troops; (6) Diversionary Troops (Spetsnaz); and (7) Fortified Area Troops.

Personnel of the Ground Forces are relatively less educated and their class ratings are lower, comparing to the other services. In Soviet Armed Forces, there are 2,000 different specialties with the Ground Forces having the smallest number of specialities of any of the services. Most skilled and capable personnel within the Ground Forces are assigned to the troops where high-tech missile systems or sophisticated tanks and artillery systems are in use.

In the less technical services like Ground Forces, the percentage of highly skilled personnel is not high but it still must be sizable, since at any one time at least three quarters of the ground forces have been in the Army for six months or more and consequently should have acquired at least a third class specialist rating. [Ref. 10]

In their organization and operational strength, the Ground Forces can be seen as a scaled-down model of the entire Soviet Armed Forces. The Ground Forces have their

own rocket troops, their own air defense troops, their own aircraft, which are independent of the Air Forces, and their own airborne troops which are the second strongest in the world.

The Commander-in-Chief of the Ground Forces has no more than an administrative function. His headquarters contains neither an Operational nor an Intelligence Directorate. All operational planning is carried out by the mixed commands of the Fronts, Strategic Directions or General Staff. The Commander-in-Chief's responsibilities are limited to the equipment, provisioning and training of his forces. However, despite the fact that he has no responsibility for the direction of operations, the C-in-C Ground Forces is still a highly influential administrator. Clearly, anyone who is responsible for the development and supply of 41 Armies, including 8 Tank Armies deserves respect. The Commanders of the various arms of service of the Ground Forces, too, have purely administrative functions. The direction of operations, as we already know, is the function of mixed all arms commands, which are not subordinated for this function to either the C-in-C or the Commanders of individual arms of service. [Ref. 11]

3. The National Air Defense Forces

The National Air Defense Forces (ADF) are the third most important of the five Services, after the Strategic Rocket Forces and Ground Forces. In peacetime, they consist of 494,000 active personnel, 65,000 civilian personnel, and 1,015,000 reserve personnel. [Ref. 12]

The overall quality of the ADF is relatively high and the number of people who have first and second class specialties is higher than most other branches of the armed forces. 95 percent of ADF troops' personnel are qualified specialists and most of them hold a second specialty rating. [Ref. 13]

Because they form a unified combat organization, the ADF are always commanded by a Marshal of the Soviet Union. The Ground Forces which are five times the size of the ADF, and which represent the striking force of the Soviet Union in Europe, are headed only by a General of the Army. In the Armed Forces of any other country, responsibility for air defense is laid upon its air forces. In the Soviet Union, the air defense system was so highly developed that it would be quite impossible to confine it within the organizational structure of the Air Forces. The independence of the ADF from the Air Forces is due not only to their size and to their technical development, but also to the overall Soviet philosophy concerning the allocation of wartime roles. In any country in which Soviet specialists are given the task of setting up or restructuring the Armed Forces, they establish several parallel systems of air defense. One is a static system, designed to defend the territory of the country and the most important administrative, political, economic and transport installations which it contains. This is a copy of the ADF. In addition, separate systems for self defense and protection against air attack are set up in the Ground Forces, the Navy and the Air Forces. While the national defense system is static, those of the different armed services are mobile, designed to move alongside the forces which they exist to protect. If several systems find themselves operating in the same area, they work with one another and in such a case their collaboration is always organized by the national system. [Ref. 14]

4. The Air Forces

The Air Forces are the fourth most important of the Armed Services. There are two reasons for this low rating. In the first place, the Commander-in-Chief of the Air Forces

does not control all aircraft. Those of the Air Defense Forces are completely independent of the Air Forces. Those of the Navy, which include the most modern bombers, also have no link with the Air Forces. The Airborne Assault Troops, as an integral part of the Ground Forces, have nothing to do with the Air Forces either. Secondly, unlike the Commanders-in-Chief of the Strategic Rocket Forces and the Air Defense Forces, the C-in-C of the Air Forces is not an operational commander but an administrator. Subordinated to the C-in-C of the Air Forces in peacetime are: (1) Sixteen Air Armies; (2) The Commander of the Long-Range Air Force; (3) The Commander of Military Transport Aviation; and (4) The Training centers, Research Establishments, Test centers.

The total peacetime strength of the Air Forces is 530,000 active personnel, 158,000 civilian personnel, and 830,000 reserve personnel. [Ref. 15]

However, the apparent strength of the C-in-C of the Air Forces is illusory. He is responsible for all questions concerning the functioning of the Air Forces, from the development of new aircraft to the training of cosmonauts, but he is in no way involved in questions concerning the operational use of the aircraft under his command. In wartime all sixteen Air Armies become integral components of the fronts. Each front has an Air Army, which it uses as it considers necessary. Only the highest operational commanders --the C-in-C of a Strategic Direction or the Supreme Commander-- may interfere in a front's operational planning problems (including those of the Air Army belonging to it). The C-in-C of the Air Forces may only advise the Supreme Commander if his advice sought; if not, his task is solely to ensure that the Air Armies receive all the supplies they need to carry out their operations. Nor is the Long Range Air Force operationally controlled by the C-in-C of the Air

Forces. It is subordinated exclusively to the Supreme Commander, who can either make use of its entire strength or allocate part of it, temporarily, to the C-in-C of Strategic Directions. [Ref. 16]

In the Air Force, more than 80 percent of the personnel are first and second class personnel and almost all flight personnel have had engineering training. [Ref. 17]

5. The Navy

The Soviet Navy has four Fleets: Northern, Pacific, Baltic and Black Sea, in order of strength.

Each of the four fleets has six arms of Services. These are (1) Submarines; (2) Naval Aviation; (3) Surface Ships; (4) Diversionary SPETSNAZ naval sub-units; (5) Coastal Rocket and Artillery Troops; and (6) Marine Infantry.

The first two of these are considered the primary arms of service; the remainder, including surface ships, are seen as auxiliary forces. The Commander-in-Chief of the Navy has a purely administrative function. In addition to his administrative function, however, the C-in-C of the Navy is the Stavka's (High Command's) main advisor on the operational use of the Navy. In certain situations, too, on the instructions from the Stavka, he may direct groups of ships operating in the open sea. But he has no independent operational planning function; this is entirely the responsibility of the General Staff. [Ref. 18]

Ninety percent of the naval personnel are highly technical and well educated. Especially in the nuclear submarines, personnel are under great pressure to develop first class qualifications. Also, one third of the crew of a nuclear submarine are first class specialists with another second class specialty.

The total manpower strength of the Navy include, 442,000 active personnel, 111,000 civilian personnel, and 663,000 reserve personnel. [Ref. 19]

II. MANPOWER POOL

Covering about 14 percent of the earth's land area, the USSR is the world's largest nation and ranks third in population. Its four geo-demographic regions which include Slavic, Baltic, Transcaucasus, and Central Asian comprise 15 constituent or Union Republics. European USSR includes Estonia, Latvia, Lithuania, Belorussia, the Ukraine, the Moldavian SSR (Soviet Socialist Republic), Georgia, the Armenian SSR, the Adzerbaidzhan SSR, and Russian Soviet Federated Socialist Republic. Central Asian USSR includes the Turkmen SSR, Kazakh SSR, Uzbekh SSR, Tadzhik SSR and Kirghiz SSR. These republics and their populations are shown in Figure II and Table I.

The USSR is the last of the great multinational empires. Within its borders live approximately 271 million (as of 1983) inhabitants of whom about half are non-Russians. These non-Russians come from more than one hundred distinct nationalities, nearly one hundred of whom employ their own distinct languages. Religiously and culturally, non-Russians are equally diverse, embracing Eastern Orthodoxy, Eastern Catholicism, Catholicism, Lutheranism, Sunnite and Shiite Islam, Judaism, Ismailis (Nazarit), Armenian Gregorians, Buddhists, Buddhist-Lamaites, Nestorian Christians, and animists. [Ref. 20]

Obviously, the cohort from which Soviet military manpower requirements must be drawn reflects this diversity; it is not homogeneously Slavic, let alone Russian, mass. Yet, for historical reasons, Russians and Soviet military planners alike have relied primarily on Russian and other Slavic peoples to man and staff both pre and post-1917 Armed Forces. For centuries this policy has proved

sufficient, as the number of available Slavs and the few trusted others have been greater than military manpower demand. But this favorable situation is changing rapidly

The USSR faces current and increasing labor imbalances and shortages. For Soviet manpower planners, the labor picture is complicated by the rapidly changing ethnic makeup of the available and future military and nonmilitary labor cohort. From 1980 to 1995, the number of Soviet males who become 18 years old each year will vary between approximately 2.1 and 2.4 million. This cohort must supply both military and nonmilitary labor requirements. There are 5,050,000 people serving actively in the Soviet Armed Forces, only by conservative estimate. The conscripts have the 69 percent share of the overall size which comprise 3,484,500 people while the officers and Enlisted cadre personnel have the shares of 20 percent and 10 percent respectively. The military alone requires approximately 1.7 million new 18-year-old male conscripts each year given current Soviet force size. It is unknown how many young males Soviet planners deem necessary for the needs of the economy. Nevertheless, assuming no change in the conscription law or terms of service, or in labor productivity, an annual military requirement of 70 to 80 percent of the 18-year-old male cohort implies that relatively inadequate numbers will become available for civilian purposes. [Ref. 21]

Assuming 2 or 3 years of active service life for 1.7 million cohort in a given year, 3.4 million draftees will be in service which include two annual cohorts. That is, two times 1.7 million manpower supply will be in the active service. The rest of this 18-21 year-old age group is available for civilian purposes that might not be adequate for the manpower requirements deemed necessary to man the civilian jobs with this age group.

Labor shortages take on a very important role in the Soviet economy because of inability to improve productivity and increased labor utilization has been traditionally relied upon to improve economic growth. Efforts toward more efficient utilization of labor failed throughout the 1970's, despite substantial access to Western technology. Productivity growth fell from 0.8 percent per year in the 1960's to 0 percent in the period 1971-1974 and -0.4 percent in the latter 1970's. Indicators for 1979 also show that more recent efforts to increase productivity have failed to achieve substantial gains. With these considerations in mind, maintenance of an adequate labor force becomes absolutely crucial to the future of the Soviet economy. [Ref. 22]

In addition to the economic impacts, the scarcity of manpower resources may have adverse affects on the size of the Armed Forces for there should be intense competition between the military and economic sectors for the shrinking cohort of 18-year-old males. Thus, quantitative manpower issues facing the Soviet Union are immense. But the real difficulties lie not so much in the quantitative availability of manpower as in the regional distribution of human resources. The projections of both U.S. and Soviet demographers indicate that the increase in the able-bodied age cohorts in Central Asia and Kazakhstan will actually exceed that for the USSR as a whole during the 1980's, while the industrially developed RSFSR will suffer a net decrease in labor force additions. The situation will be essentially the same for the Ukraine and the Baltic Republics. [Ref. 23]

General Soviet Population increased 0.083 percent between 1922 and 1982. As it will be seen in Table I, the maximum natural increase has occurred in Central Asian Republics. Within this group there is no increase ratio less

than 2 percent only except Kazakhstan (%1.63). Second group with greater increase ratio is Transcaucasus which has no less than 1 percent increase ratio, except Georgia (%0.96). Slavic and Baltic republics had an increase ratio of less than 1 percent of which most are under the 0.50 percent. All these numbers dictate that the Russians have not been reproducing themselves as rapidly as non-Russians have. Since, Russian population now comprise only slightly over 52 percent of total Soviet population, they will be outnumbered by non-Russian ethnic groups in the foreseeable future if present trend continues.

A. DEMOGRAPHIC STRUCTURE OF SOVIET UNION

For the purpose of demographic analysis, the nationalities of the Soviet Union may be roughly divided into two groups. The first group is the European nationalities which consist of the people who live in RSFSR, the Ukraine, Belorussia, and the Baltic Republics and, to a lesser degree Moldavia. The second group is the Turco-Moslem or non-Europeans nationalities of Central Asia and Transcaucasus Republics. The regional distribution of the various nationalities, the current and projected patterns of migration, the birthrate disparities, and the degree of cultural/linguistic assimilation of the non-Slavic elements combine to portray the image of a rapidly changing society of a multi-ethnic character. [Ref. 24]

As it is shown in table I, the 1979 population of 15 Republics and their composition as of Russians and non-Russians give a clear picture of the structure of the current population. In this table, Republics are divided into 5 major geographical areas which consist Slavic, Baltic, Transcaucasus, Central Asia and Moldavia.

Over the total population of USSR, Slavic portion is 75 percent (includes 11 percent other nationalities living in Slavic Republics) while Baltic, Transcaucasus, Central Asian, and Moldavian portions are 2 percent, 5 percent, 15 percent, and 1,5 percent respectively. Russian population is highest in Slavic Republics with 63 percent share and lowest in Transcaucasus with 6 percent share. Indigenous Nominal ethnic groups constitute the majority of population and their percentage shares are between 36 percent minimum as in Kazakh SSR, and 90 percent maximum as in Armenian SSR. Obviously, the Russian population is highest in RSFSR with a 82 percent share and lowest with a 2 percent share in Armenia SSR.

The ethnodemographic composition of the USSR is characterized by a large disparity between the growth rates of the country's "European" (Slavic and Baltic) nationalities, which are low and have steadily fallen, and the growth rates of its "non-European" (Caucasian and Central Asian) nationalities, which are extremely high. However the European nationalities form such a large majority of the population, overall Soviet population growth has slowed to 0.8 percent annum, while the proportion of "non-Europeans" in the population has risen from 15.5 percent in 1959 to 21 percent in 1979 and is steadily increasing. That the regime is seriously concerned about this situation is indicated by a variety of official statements and actions. However, current trends cannot possibly be stopped or reversed on short notice, and the spectre of a demographic "yellowing" that haunts many Soviet "Europeans" will become an increasingly salient fact. [Ref. 25]

TABLE I
1979 POPULATION OF THE USSR AND ITS COMPOSITION (IN MILLIONS)

Republic	Tot. Pop.	Ntl. Ethn. Groups Pop. in own Rep. and its %.	Russian Pop. and its %.	Non-Russian Population and its %.	Natural Increase in pop. (1922-82)
SLAVIC	137,55	113,52 (%82)	113,52 (%82)	24,03 (%17)	%0.51
Russian	49,76	36,49 (%73)	10,47 (%21)	2,80 (%5)	%0.33
Ukraine	9,56	7,57 (%79)	1,13 (%11)	0,86 (%8)	%0.67
Belorussian	146,89	137,58 (%80)	125,12 (%63)	27,69 (%14)	
--Subtotal					
BALTIC	3,40	2,71 (%79)	0,30 (%8)	0,39 (%11)	%0.48
Lithuanian	2,52	1,34 (%53)	0,82 (%32)	0,36 (%14)	%0.14
Latvian	1,47	0,95 (%64)	0,41 (%27)	0,11 (%7)	%0.31
Estonian	7,39	5,00 (%67)	1,53 (%20)	0,86 (%11)	
--Subtotal					
TRANSCAUCASUS	6,03	4,71 (%78)	0,48 (%7)	0,86 (%13)	%1.94
Azerbaijani	3,03	2,73 (%90)	0,07 (%2)	0,23 (%7)	%1.81
Armenian	5,01	3,43 (%68)	0,37 (%7)	1,21 (%24)	%0.96
Georgian	14,07	10,87 (%77)	0,92 (%6)	2,28 (%16)	
--Subtotal					
CENTRAL ASIA	15,39	10,57 (%68)	1,67 (%10)	3,15 (%20)	%2.77
Uzbek	14,68	5,29 (%36)	5,99 (%40)	3,40 (%23)	%1.63
Kazakh	3,80	2,24 (%58)	0,40 (%10)	1,16 (%30)	%3.05
Tadzhik	2,76	1,89 (%68)	0,35 (%12)	0,52 (%18)	%2.58
Turkmen	3,53	1,69 (%47)	0,91 (%25)	0,91 (%26)	%2.28
Kirghiz	40,16	21,68 (%53)	9,32 (%23)	9,16 (%22)	%1.02
--Subtotal					
MOLDAVIA	3,95	2,53 (%64)	0,51 (%12)	0,91 (%23)	%1.02
USSR TOTAL	262,44	197,66 (%75)	137,40 (%52)	40,90 (%15)	%0.83

(Source: 1979 Soviet Census)
(Source for Natural increase in 1922-82: USSR Facts and Figures Annual Volume 8, John Scherer-Academic International Press 1984
Gulf Breeze Florida 1984, p.44)

In many respects, the demographic status of the Soviet Union is remarkably similar to that of the United States and Western Europe; while in other respects, the Soviet population is unique among the populations of the world. To understand fully the structure and activity of Soviet population and population growth, it becomes necessary to study both the impact of historical events and the operation of the various socio-economic variables which determine present and future growth. [Ref. 26]

The Russian Empire started the 20th. century with a well balanced population. This balance was distorted by the impacts of World War I, the Civil War, famine of the 1920's, the pre-war collectivization, the purges of the late 1930's, and the heavy losses of World War II. It has been estimated that in the period 1914 to 1921 alone, the total of severe population losses inflicted upon the Soviet Union through war, revolution, emigration, and famine was 26 million. Most noticeable is the absolute decline in population as a result of World War II, which occurred in spite of substantial territorial expansion that tended to reduce somewhat the demographic impact of the loss of 7 million soldiers and 13 millions civilians. The 1950-1959 period was characterized in the Soviet Union, as in Western industrialized nations, by an uncharacteristic rise in the birth rate and strong demographic growth. In many respects, the census results for 1970 were shocking to the Soviet leadership. The census indicated a clear reversal in the earlier trends toward rapid population growth and Russian demographic strength, touching off a national debate on regional economic and nationality policies which is still active at the current time. The gravest concerns were the apparent decline in the rate of birth and natural increase of the population and the clear trend toward massive regional disparities unfavorable to the Slavic nationalities. It also became apparent

that these trends would accelerate, forecasting serious dislocations in the decades ahead. These trends, combined with the presence of emerging cultural and nationalistic sentiments, carry important consequences for the maintenance of future economic and military strength. [Ref. 27]

A glance at the map (Figure 2.1), will indicate the geographical disposition of the constituent republics and thus the principal area of residence of the ethnic groups for which they are named. The vast Russian Republic dominates the map, stretching from the Western reaches of the Soviet Union to the Pacific and from the Arctic Ocean to much of China and Mongolia on the South. Surrounding the Russian Republic and forming the Soviet Union's frontiers with Europe (except Finland), Turkey, Iran, Afghanistan, and portions of China are the other 14 constituent republics. In the northwest are the Estonian, Latvian, and Lithuanian SSRs. Part of the Lithuanian republic along with all of the Belorussian and part of the Ukrainian Republic front on Poland, while the Ukrainian Republic and the Moldavian SSR provide the Soviet Union's frontiers with Czechoslovakia, Hungary, and Romania. In the southwest the Transcaucasian republics of Georgia, Armenia, and Azarbaidzhan form the borders with Turkey and a part of Iran. In Central Asia the Turkmen, Uzbek, and Tadzhik republics face the remainder of Iran and Afghanistan, while part of Tadzhik SSR, the Kirgiz SSR, and the Kazakh SSR form the Soviet frontiers with northwestern China.

The religious heritage of the peoples of the various republics is diverse. Most Russians, Eastern Ukrainians, Belorussians, and Georgians are Catholic, mainly Eastern Orthodox. The Western Ukrainians are of Eastern Catholic persuasion. The Estonians and Latvians are Lutheran for the most part, while the Lithuanians are Catholic. The Armenians are Armenian Gregorian. Inhabiting the southern border

republics from Azerbaidzhan on the west, through the Central Asian republics, and to the Eastern reaches of Kazakhstan are millions of Muslims, mostly Sunnis. For various reasons, including ill-treatment and repression of its Muslim minorities for years and the complex network of political and religious hostilities in the Islamic world on its southern frontiers, the Kremlin must regard with some concern the rapidly increasing numbers of Muslim-Turkic peoples inhabiting its southern regions. It is from these areas that substantial and growing proportions of accessions to the Soviet labor force and armed forces must be drawn. [Ref. 28]

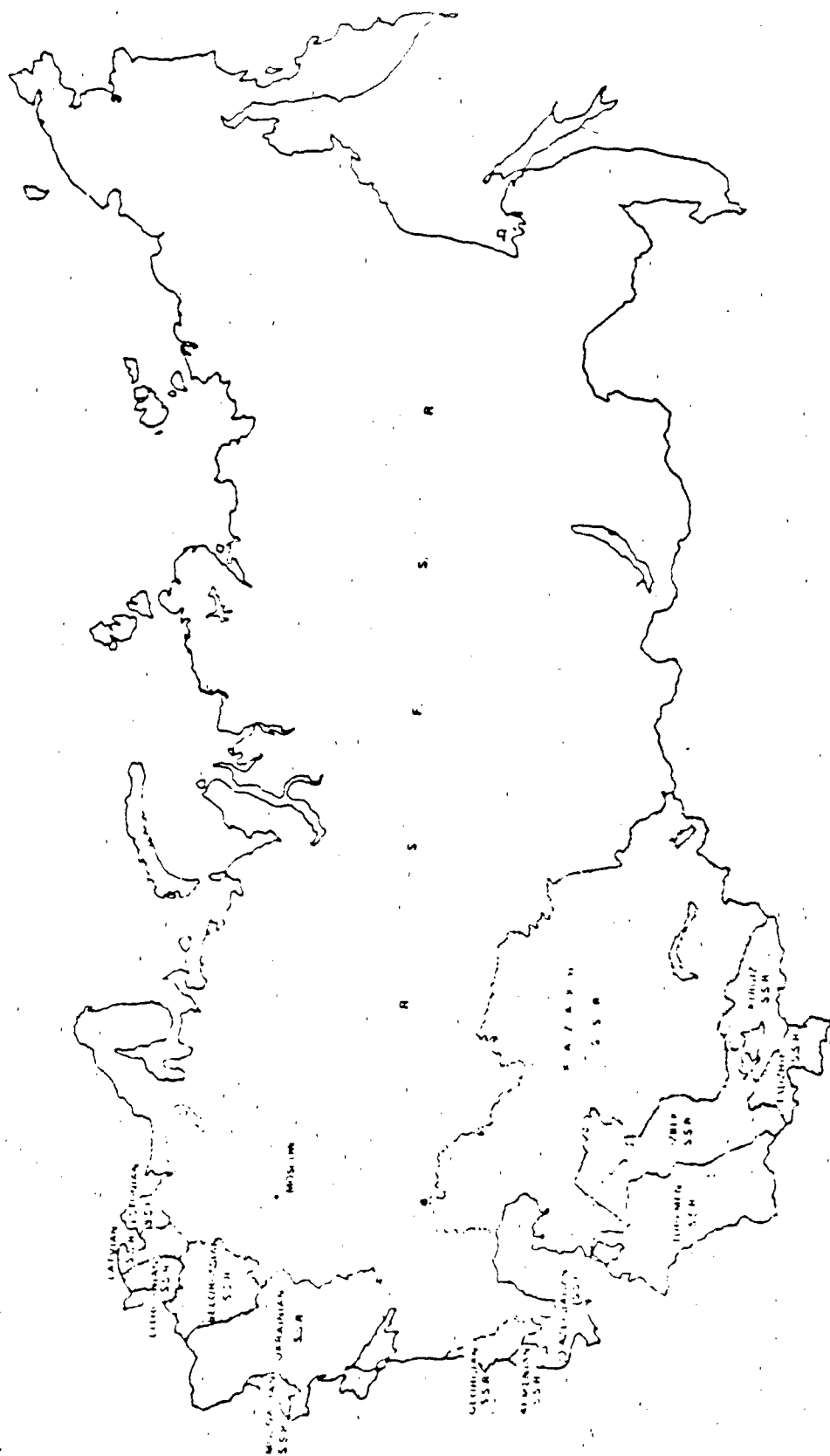


Figure 2.1 The Political Map of the USSR.

B. MANPOWER AVAILABILITY AND DISTRIBUTION

The Soviet Union's population growth rate slowed from 1.34 percent annually between 1959 and 1970 to 0.92 percent per year between 1970 and 1979-as previously stated, the natural increase rate between 1922 and 1982 is 0.83 percent- the rates for ethnic Russians in these two time periods were 1.12 percent and 0.70 percent, respectively. Although growth rates for non-Russian peoples, including Slavs in the Ukraine and Belorussia, also were lower in the second period than in the first, the growth rates for Muslim-Turkic peoples rose relative to the rate for the USSR as a whole. These differentials mean that the Russian share of the Soviet Union's population fell from 54.6 percent in 1959 to 52.4 percent in 1979, whereas that of Muslim-Turkic peoples rose from 12.6 percent in 1959 to 17.4 percent in 1979, and there are now about 46 million of them. Russians lost in relative strength in their own republic (the RSFSR), in the Transcaucasus, and in Central Asia, but gained in the Ukraine, Belorussia, and the Baltic republics. In the Ukraine, Belorussia and Baltic republics indigenous ethnic groups have lost ground in their homelands and in the USSR as a whole. Elsewhere, and particularly in the Central Asian Republics, indigenous ethnic groups have gained, relatively, in their homelands and in their percentages of the total population of the Soviet Union. Projections of the total population and of the numbers of draft age males, by ethnic group, to 1995 were made by the development and application of simple regression equations. The results show that: (1) The estimated total number of 18-year-old males becoming available annually will decline from about 2.39 million in 1980 to about 2.15 million in 1985, and then rise to approximately 2.31 million in 1995; (2) the Muslim-Turkic group is the only one which will gain in its share of the total

population of the USSR during this period; (3) it is the only group in which the percentages of all Soviet draft-age males will increase, from about 23.5 percent in 1980 to about 28.7 percent in 1995; and (4) ethnic Russians now appear to comprise less than half (49 percent) of the draft-age male cohort, and by 1995 will comprise about 46 percent of the total. [Ref. 29]

The projections indicate that the increase in the able-bodied ages in Central Asia and Kazakhstan will actually exceed that for the USSR as a whole during the 1980's. The Transcaucasus also will supply a positive increment to the net growth over the entire period. A net decrease will occur in the RSFSR and the Ukraine beginning in 1980 and in the Baltic region after 1990. Although there will be a reduction in the share of the Central Asian region and Kazakhstan during the 1990's, and that of the Transcaucasus will decline from 1985 onward, the contribution of these areas to the national increase in the able-bodied population will continue to be much higher throughout the latter part of the century than it was during the 1970's. These prospects pose serious problems relating to mobility, the ability to speak Russian, urbanization, and industrialization process. [Ref. 30]

Despite the fact that the Soviet Union desperately needs to improve agriculture and to increase sharply the productivity of farmers through additional inputs of labor as well as capital, as of January 1, 1968, they have lowered the pension age for collective farmers to that for workers and employees in the state sector. As of April 1, 1975, they have lowered the pension age for female farm machine operators even more in an effort to make work more attractive to them. Thus, the authorities appear to have a fundamental ambivalence in their treatment of collective farm workers. In all, then, the demographic picture forbodes ill for the

future labor supply until the end of the century. Not only will the increase in the total numbers be constricting, but the picture afforded by examination of the regional components underscores the necessity for improvements in productivity and efficiency if past or current economic growth paths are to be followed in the future. [Ref. 31]

C. ETHNIC CONFLICTS

The Soviet Armed Forces, which traditionally have drawn most heavily from the Slavic populations of the Soviet state to man positions of authority, technological sophistication, and political sensitivity, now are beginning to be faced with the specter of a conscription cohort that increasingly must be drawn from the southern and eastern reaches of the Soviet Union, particularly from Soviet Turkic-Muslim populations. By 1995, between one-in-three and one-in-four members of the draftable cohort will come from a Muslim region of the USSR. [Ref. 32]

Non-Slavic conscripts constitute approximately 20 percent of combat units, although usually they are relegated to serving in support capacities. Non-Slavs make up as much as 80 percent of the construction forces, and the Central Asians are heavily overrepresented in these units. High technology services, such as the Strategic Rocket Forces and the Air Forces, are manned largely by Slavs--approximately 90-95 percent, of whom the large majority are Russian. Internal Security Forces are reported to contain a significant percentage of Central Asians, who serve as security guards and in general policing roles. Non-commissioned officer ranks are filled primarily by Slavs, with Eastern Ukrainians constituting a sizeable share, perhaps as high as 60 percent. The Soviet Officer Corps is overwhelmingly Slavic --approximately 95 percent-- of whom Russians are a

strong majority. Pre-induction training for non-Slavs is limited; the voyenkomat (local draft board) system is not observed to function as an important training instrument. Russian is the language of command. All written and verbal instruction is in Russian, non-Russian literature is discouraged, and punishment is approved for those who cannot or will not learn Russian. After approximately one year of service, non-Russian speaking conscripts acquire the ability to function at a basic level in Russian -- "kitchen Russian" -- but dissimulation is widespread and hard to control. Fluency in Russian is required in high technology services, which limits the number of non-Slavs who can qualify for these duties. [Ref. 33]

The language deficiency contributes the ethnic problems to a great extent. Superior/junior relations and military discipline also suffer from this problem.²

It is hardly to be expected that ethnic divisions and anti-Russian sentiments that create major problems in the civil society are without a similar effect in the military forces. Naturally Soviet military writers refer only discreetly to tensions within the multinational units among which Soviet minorities are dispersed, but the need of commanders and political workers to "rally the military

²The Soviet census of 1979 permits the calculation that 62 percent of the non-Russian population, that is 29 percent of the USSR's population, do not speak Russian fluently. Unfortunately the census does not distinguish degrees of Russian knowledge in this nonfluent category. Since Russian is the sole written and spoken language permitted in instruction and command in the armed services, one can anticipate that problems must arise, both in training and in operations, from the failure of a substantial number of recruits to have an adequate knowledge of Russian. And, indeed Soviet military writings reflect substantial language problems that have led the military to push for increased Russian instruction in the schools of the minority republics and to institute special classes in the army. These attempts to alleviate the military's language problems almost necessarily aggravate problems that derive from nationalist sentiments, whose strength is evidenced by the persistence with which most minorities have clung to their native languages and resist the introduction of Russian as the language of instruction in their schools.

collectives" explicitly refers to overcoming national divisions. Military collectives contain representatives of many nationalities, usually ten to fifteen in company size units; and "the slightest hostility" among them can impair combat readiness. Propagandists are told that friendship among men of different nationalities can be strengthened by implanting a "burning hatred" of the enemies of the motherland and by inculcating a pan-national Soviet pride. It is hardly likely that this will dissolve nationalist feeling or anti-Russian sentiments. [Ref. 34]

1. Military Participation of the Ethnic Groups

From the founding of the modern Russian state, non-Russians served voluntarily in auxiliary or allied forces. The first such troops came from the Kasimov Tatars, Siberial Tatars, and Nogay Tatars. Having proved effective and helpful in these cases, the military employment of non-Russians in nationally segregated units became a standard practice, which survived the demise of the Russian Empire and continued under the Soviet regime. Even when the Russian regime instituted a modern conscription policy in 1699-1700, most non-Russians in military service continued to serve as volunteers outside the framework of the regular army in units designated as "Troops of different nationalities". The draft was only applied in Russian areas, apparently to restrict the number of minorities in the army and thus ensure Russian control. The compulsory service policy remained focused primarily on the Russian population through the eighteenth century, although select nationalities gradually were made subject to the draft. As part of a set of military reforms adopted in 1874, the "troops of different nationalities" were disbanded, and conscription, officially, was made universal.

In practice, however the Imperial recruitment policy toward non-Slavs continued to be bifurcated: ethnic groups considered loyal to the Tsarist regime were drafted, whereas unreliable elements were excluded from service in the regular army. In particular, Caucasians, North Caucasians, and Central Asians were either exempted or excused from military service at this time. This practice was in conformity with the regime's stipulation that the ethnic composition of the annual recruit cohort and of existing military units be no less than 75 percent Slavic. The regime raised some volunteer units among the north Caucasian nationalities, and Caucasians were eventually conscripted, but Central Asians continued to be exempt until 1916, when the regime's ill-fortune in World War I forced it to attempt to draft them. As the drafting of Central Asians indicated, Imperial conscription policies followed up to that time were inadequate to provide the numbers of men required by the magnitude of the struggle in which the regime was engaged in World War I. In another departure in its recruitment policy, the leadership encouraged the creation of some national units, in order to capitalize on the hostility of various nationalities of the Empire toward the Central powers. But the efforts of the government proved inadequate to augment Slavic manpower deployed on the Eastern Front. [Ref. 35]

In the fluid period of the Civil War, before the Bolsheviks were able to consolidate control, many nationalities formed their own military units and struggled to achieve different degrees of independence from the new regime. Such units variously sided with the Reds or the Whites, depending on which appeared to offer the ethnic minorities the greatest opportunity for achievement of their own national aspirations. Whereas some white leaders apparently made little attempt to conceal their Russian chauvinism and status quo ante intentions, the Bolsheviks

proclaimed a novel ideology that promised national self determination . As a result of such factors, the Reds were more successful in garnering minority allies in their struggle to defeat the Whites, and even obtained the cooperation of some minority units in subjugating their own homelands. The involvement of minority units with the Red Army made its drive into their regions somewhat more palatable to the natives. The Bolsheviks' campaign to recruit minorities was most successful among Central Asians. They created a Central Asian Commissariat, which was directed and staffed by locals, to recruit muslim nationalities into a Red Muslim Army. This army swelled with volunteers who had defected from the White side and drew in many others. Its size as an independent entity is not known, for the Bolsheviks quickly integrated these units into the regular Red Army. By early 1919 possibly between 225,000 and 250,000 Muslims served in the Red Army under native officers. Muslims are said to have constituted more than 50 percent of the Soviet personnel on the critical Siberian front and to have made up 70 to 75 percent of the combat personnel of Tukhachevsky's 'Fifth Army', which played a decisive role in the defeat of White Forces.

At the conclusion of the Civil War, many of the nationalities continued to press for the creation of their own national armies to support their claims for political autonomy and independence. The Bolshevik leadership rightly recognized that such a move would jeopardize its control of the borderlands, and, therefore, national armies were not permitted. However, the leadership compromised in allowing the establishment of national military units, with the stipulation that they be restricted in size and firmly subordinated to Central Russian authority. An ambitious, long term program for the creation of national units was adopted in 1924-1925. Although some success in fulfilling the plan was

achieved, the program soon foundered, largely because of the questionable loyalty of native officers and commissars, language problems, and resurgent nationalism. In March 1938, all national units were officially abolished.

At the beginning of World War II, the Red Army was officially composed of ethnically integrated units, but some de facto national units existed as a result of the recent integration of the Baltic States into the Soviet Union and because of the nature of the Red Army's reserve system. Even though some of these de facto national units proved unreliable, the government repeated the pattern of creating national formations when faced with a military crisis. In November 1941, responding to the German invasion and under dire necessity to strengthen the failing Red Army, the State Defense Committee authorized the establishment of official national units to mobilize more manpower and physical resources of the republics in defense of the country. Some national units survived until the mid-1950s, at which time all were disbanded and their personnel integrated into regular formations of the Red Army. There were probably many reasons for this reintegration --including the desire to use the Army as an instrument to russify the population-- but disloyalty is perhaps the most important. Emigre interviewees continually cite the refusal of native Georgian troops to fire on their own population at the time of the Tbilisi uprising in 1956 as the reason for termination of national units.

At the present time, all nationalities are assigned to ethnically integrated units, and personnel are generally stationed according to the principle of extraterritoriality. That is, most serve in regions other than their native republic. Russian and Soviet experience in using minority troops has been mixed. Non-Russian soldiers have played important roles in numerous specific instances, and

the sheer number of non-Russian soldiers raised were important factors in the Civil War and World War II. In these cases, as at other times, the creation of national units facilitated the mobilization of many minority soldiers. But, in general, non-Russian troops have been --or have been perceived to be-- of questionable effectiveness and reliability, if not outrightly disloyal. For that reason, past leaderships have sought to limit the number of minority soldiers in the military whenever this was possible-- that is, in peacetime-- and to assign those who do serve to integrated units where their nationalistic tendencies can be more readily controlled. In event of war, immediate manpower requirements have superseded these precautions. [Ref. 36]

2. Some Characteristics of the Armed Forces from an Ethnic Perspective

In all societies, problems created or compounded by military service and their solutions are likely to be found in non-military life. The Soviet Union is no exception. The treatment of non-Slavs in the military is a part of a much larger policy designed to assure Russian domination at all levels of Soviet society. The military related problems are summarized in the Rand Report on the Ethnic Factor in the Soviet Armed Forces, as follows. [Ref. 37]

a. Recruitment

Recruitment policies are designed to provide the proper ethnic balance in various services, branches and individual units.

b. Stationing

Extraterritorial stationing --stationing non-Russian recruits away from their national territories-- is current policy, and no national units exist at this time.

c. Ethnic Composition of Units

High technology services are mainly Slavic; construction and support units are mainly non-Slavic; border Forces are primarily Slavic; MVD Troops are perhaps as much as 50 percent non-Slavic (primarily Central Asian and other Muslims); East Ukrainians are dramatically overrepresented in the permanent NCO corps; and the officer corps is overwhelmingly Slavic and Russian dominated.

d. Education and Training

Premilitary training is less intensive in many non-Slavic regions; Most construction unit soldiers, (mainly non-Slavic), receive little or no individual weapons or unit instruction; despite some "affirmative action type" programs, only a few non-Slavs opt for military academies and officer training; and advanced in-service training is only available, with few exceptions, to non-Russians with a command of the Russian language.

e. Language

No in-service Russian language training for non-Russians has been observed; many non-Russians acquire an ability to function in basic Russian after approximately one year's service; and authorities cannot control the use of non-Russian languages outside of formation.

f. Ethnic Relations

Relations between "Europeans and Asians" is characterized by racial discrimination by the former toward the latter; individual nationalities tend to bend together for support; open violent conflict between Slavs and non-Slavs is not uncommon; conflict between non-Slavs exists but is less prevalent than that between Slavs and non-Slavs;

and authorities are reluctant to intervene in ethnic related conflicts.

The implications of these factors are important on combat readiness of Soviet Armed Forces. Therefore, ethnic related problems and their consequences-in terms of peacetime management and combat readiness- will be addressed in last chapters, under the title of performance appraisal.

III. MECHANISMS FOR DRAWING ON MILITARY MANPOWER POOL

The total size of the Soviet Armed Forces ranges from 4 million to 6 million. The figure of 6 million seems the least likely of the various estimates. In a recent study of the Senate Armed Services Committee, the total size was given as 4.8 million. Also, the figure in the Military Balance issue of the International Institute for Strategic Studies of London, was given as 5,050,000¹ as of year of 1984.

There is no doubt that the Soviet Armed Forces have grown since the low of 3,325,000 in 1961 because of efforts to meet perceived threats from China, the replacement of Czech Forces by Soviet Forces in Warsaw Pact Formations, and the growth of the Navy. However, 6 million would seem to be inconsistent with any reasonable assumptions about the balance of numbers between officers, warrant officers, and extended services enlisted men who comprise the career service personnel and the numbers of males inducted each year. Given an average of about 2 years service at the present time for all draftees, and assuming that 25 percent of the Armed Forces are cadres, then, in order to achieve the total of 6 million, conscription would have to absorb an impossibly high proportion of the annual cohorts of potential draftees.

The overall population of Soviet Armed Forces still is not exactly known. The number which is given by Institute of Strategic studies of London, is most up-to-date however it does not give the numerical compositions of the services as

¹Excludes some 400000 Border Guard, internal security, railroad and construction troops, but includes some 1,500,000 command and general support troops.

of active, civilian and reserve. The following numbers are taken from the 1984 edition of USSR Facts and Figures Annual, by John L. Scherer. [Ref. 38]

1. Strategic Rocket Forces: 322,000 active, 51,000 civilian, 616,000 reserve.
2. National Air Defense Troops: 494,000 active, 65,000 civilian, 1,015,000 reserve.
3. Army: 2,840,000 active, 305,000 civilian, 5,091,000 reserve.
4. Navy: 442,000 active, 111,000 civilian, 663,000 reserve.
5. Air Force: 530,000 active, 158,000 civilian, 830,000 reserve.
6. Para Military Forces: 450,000 active. (Civilians and Reserves unknown)

The managing of such an Armed Force through conscription necessitates an extensive organization of manpower activities, ranging from the selection and recruitment to the training, placement and performance appraisal.

The Soviet Union has had a system of universal military training for males since 1939. Boys are also given premilitary training by Soviet schools and other Organizations as a part of military-patriotic training. Specific premilitary training requirements and regulations governing universal military service stem from 1967 Law on Universal Military Obligation. [Ref. 39]

The most striking change instituted by the 1967 Law was the reduction in the length of military service. Service in the army, the coast guard, the air arm of the navy, and the border and security troops was reduced from three to two years. Service on naval ships, vessels, coast guard combat units, and maritime units of border troops was reduced from four to three years. Inductees with higher education serve for only one year. It is not unlikely that the efforts of

young Soviet men to be admitted to schools of higher learning are partly related to the existence of the deferments and shorter term of military service that a higher education confers. The 1967 law reduced the age of call-up from nineteen to eighteen years, thus providing a younger and less mature set of draftees. In addition, the call-up for active duty now takes place twice a year, in May and June and again in November and December, instead of only once a year. These two periods of call-up coincide with the completion of spring and autumn intensive agricultural activity in many parts of the Soviet Union.

The reduction of military service by a full year compounded by the receipt of less mature draftees and their induction to the army twice a year created difficulties for those charged with the training of young Soviet inductees. This is especially so because most of the inductees are trained in operational forces and not in special training units.

Soviet discussions point out that the reduction in the length of military service was made possible by the increased educational level of Soviet inductees and their resultant ability to acquire military skills that emphasize technical capabilities and the manipulation of scientific and technical instruments more swiftly. Indeed, this reason for the reduction is written into the preamble to the law of Universal Military Service.

Nonetheless, Soviet military writers make it perfectly clear that the new law imposes great burdens on them. The law has established "the bare minimum" period of service. It is evident that it was not the particular stage of development of the Soviet Armed Forces and the instruments at their disposal that primarily dictated the reduction in length of service, but rather the demands of the economy, which also requires young, well-educated, men. Despite the

official line in the preamble to the law, military writers have occasionally conceded that the competition of the national economy was a factor in dictating the reduction in military service.

The lowering of the age at which draftees begin their service is also a help to the economy. This change permits graduates of Soviet secondary schools to begin their military services immediately and to complete it before entering the labor force. This is more efficient than entering the labor force, withdrawing for military service, and then reentering the labor force.

The Law of Universal Military Service leaves an obvious question unanswered. How is the evident injustice-assuming that military service is not always welcomed by the individual-of inducting some draftees for two years of service and others for three years handled? Soviet journals are reticent on this question, which also applied, of course, to all the earlier versions of the law. The problem is alluded to and dismissed in article 15b: "The USSR Ministry of Defense is granted the right, if necessary, to transfer servicemen from one branch (arm of services) of the USSR Armed Forces to another, with the corresponding change in the periods of service". Possibly, a sufficient number of qualified Soviet youths are eager for shipboard service. A substantial number of them who undergo specialized preinduction military training study specialties of a naval character, thus increasing the chances that they will be inducted into the Navy. Naval service holds the appeal of faraway places, especially now that the Soviet Navy sails on all oceans of the world. This appeal is fortified by the apparently not infrequent tendency of the sons of fathers

⁴This issue was addressed in Kresnaya Zvezda, February 3, 1972, as following. "This law was drafted with due regard for social changes and proceeded from the needs of defense and national economy."

who have served in the Soviet Navy to request naval service when drafted. [Ref. 40]

A. MANPOWER PLANNING

Basically, the Soviet Military Manpower system is a cadre system, with a nucleus of highly qualified professionals engaged in training inductees and then discharging them into reserves. Virtually, the entire Soviet male population serves in the Armed Forces at one time or another. Since the end of World War II, the size of the Soviet Armed Forces has been influenced by the number of young men available for military service. As previously discussed, the Soviet birth rate dropped significantly after 1941 and did not return to its prewar peak until the late 1940s. In 1957, the number of 19-year-old males, the age for call-up, was approximately 2,329,000, in 1961 --slightly over nineteen years after the entry of the Soviet Union in World War II-- this figure dropped below 2,000,000; it reached a low of 914,000 in 1963. [Ref. 41]

In the mid-1950s there were approximately 5 million men in the Soviet Armed Forces. When the low birthrate of World War II began to have its impact upon the number of men available for the Armed Forces, the Party leadership considered it necessary to explain to the world why reductions in military manpower were taking place. Krushchev publicly attributed manpower reduction in the Soviet Armed Forces to the effectiveness of the new nuclear and thermonuclear weapons, making the number of soldiers on the battlefield of little importance. Soviet leaders especially tried to make this point with the Chinese, who were arguing that manpower was the major component of a nation's military strength. By 1967, the numbers of males reaching the age of 19 each year had almost reached the two million mark. At

that time, the period of compulsory military service was three years, except for certain naval components whose inductees were obligated to serve four years. It was apparent that with this length of service and induction rate of approximately 80 percent of eligible youths, the size of the Soviet Armed Forces soon would exceed 6 million men, including officers and non commissioned officers on extended duty. The solution to the problem was a new Law on Universal Military Obligation, reducing the obligation by one year for all inductees (two years service for all except those naval components where the obligation now became three years.)

Reducing the draft age to eighteen was probably simply the result of recognizing the facts that by 18 most Soviet students have completed their basic ten years of education and that ideally military call-up should take place as soon as possible after basic schooling is completed. One of Kruschchev's "harebrained" schemes was to extend school to eleven years, requiring students to work a few days each week in factories during the last two years. When this scheme was dropped and required schooling was reduced to ten years, there often was a gap of one year between the time the student finished school and the time he became nineteen and was subject to military call-up. Moreover, the earlier the age at which obligatory military service begins, the sooner the individual can enter the civilian labor pool; through military service, men often have learned skills applicable to civilian or defense industry. But there also was another reason for reducing the length of service. As Marshal Sokolovskiy observed in military strategy, "it is well known that the shorter the period of service in the army, the greater the number of men with military training discharged every year into the reserves." And maintenance of a large reserve is the basic element of the Soviet military mobilization plan.

From the viewpoint of a professional officer, reducing the period of compulsory military service from three to two years, as specified in the 1967 military service law, decreased the effectiveness of the military force-in-being. For long term reasons, however, the party leadership considers it more important for all Soviet males to spend some time in the Armed Forces, where they can receive intensive indoctrination in Party principles than for fewer to stay longer. The shorter period of service makes it possible to give military training to virtually the entire male population. This provides the Party leadership with a pool of trained military manpower much larger than that in the United States or in the nations of Western Europe. [Ref. 42]

Two organizations peculiar to the Soviet Union play essential roles in the training and mobilization of the Soviet Armed Forces. The first of these is the military commissariat; the second is DOSAAF-the Volunteer Society for Cooperation with the Army, Aviation and the Fleet.

1. Military Commissariats

Military commissariats or Voenkomats are responsible for the induction process. Each year, in March and February, young men at the age of seventeen or almost seventeen, must register with the local Voenkomat and bring along with them certain required documents.

Twice a year, in May-June and November-December, the local draft boards assemble the draftees of their districts and select those whom they will take to fill their quotas. Draftees may indicate their preferred form of service, and very often they choose one in which their preinduction training, especially military specialty training, will be advantageous. The draft board assigns draftees to a particular service on the basis of these and other considerations.

At the regional (oblast) assembly point, a final selection of draftees is made, and some selected by local commissariats may be rejected. Both at the local level and at the oblast assembly point, the inductees are given a sendoff at which local dignitaries make speeches, soldiers' songs are sung, and war veterans talk to the draftees about "heroes, about banners steeped in glory." [Ref. 43]

Voyenkomats are controlled by the General Staff of the Ministry of Defense, through the Commanders of the Military Districts in which they are located. Their offices number in thousands. Each of the Soviet Republics has a military commissariat headed, in most instances, by a general major, who is the military commissar of the republic. Below the republic level are autonomous republics, oblasts, national districts, and autonomous oblasts, each of which has a military commissariat headed by a colonel, and sometimes a general major. All cities and urban regions have military commissariats, and cities large enough to be divided into regions have several. There are about four thousand military commissariat offices at this level, headed generally by a colonel, although occasionally higher and lower ranks will be found. They work in close contact with the local Party and Soviet Agencies and with their direct cooperation in all matters. By law they are charged with: (1) putting into effect measures pertaining to preparing for and conducting troop mobilization; (2) calculating and registering human and economic resources in the interests of the Armed Forces; (3) preparing youth for carrying out military service; (4) conducting call-ups for active military service and training assemblies; (5) carrying out other defense measures envisaged by the Law on General Military Obligation; (6) selecting and nominating candidates for military schools, training assemblies, and courses for reserve officers and also for the positions of praporshchiki.

(warrant officers in Army) and michmen (warrant officers in Navy) in troops units; (7) examining and resolving complaints and applications of call-up reservists, servicemen, disabled veterans, and members of their families and families of deceased servicemen. In addition, military commissariats also: (1) designate pensions for officers, warrant officers, and their families (including families of generals and admirals); and (2) cooperate in finding jobs and assuring living space to officers released from the Armed Forces. Another task of the military commissariat is to register all guns, motorcycles, automobiles, skis, cameras, and other resources belonging to individuals that could be requisitioned for an emergency. Trucks used in industry, as well as construction and agricultural equipment, have mobilization designations for which the military commissariats also is responsible. A major function of the military commissariat offices is supervising the military training and military specialist training that Soviet male teenagers receive before they are called up for active military duty. [Ref. 44]

2. Dosaaf

Dosaaf (The All Union Voluntary Society for Assistance to Army, Navy and Air Force) is one of the most important organization for preinduction training in the Soviet Union. The 1967 Law of Universal Military Service provides for introductory or preinduction military training "to be conducted for young men of preconscription and conscription age everywhere, without interrupting production and studies" (Article 17). This training is to be conducted at all secondary schools --general, specialized, and technical-vocational-- and, for those not in school, at training points set up at enterprises, institutions, organizations, and collective farms. The leaders of schools and

enterprises are held responsible for seeing that all boys receive training for active military service. The law also authorizes the training of specialists for the armed forces in educational institutions of DOSAAF and in technical-vocational schools (Article 19).

Both preinduction military training and the training of specialists "are conducted under the leadership of the USSR Ministry of Defense" The necessary training and material base, the selection and training of military instructors, and the organization of military training is a joint responsibility of the Ministry of Defense, other "appropriate ministries and departments", and the Central Committee of DOSAAF (Article 19). [Ref. 45]

DOSAAF is defined as a "popular defense-patriotic organization" whose purpose is "active cooperation for strengthening the military capability of the country and for preparing workers for the defense of the socialist fatherland". Under the overall direction of a general of the army or marshal of aviation, with many active duty officers, including political officers, assigned to it, DOSAAF has over 330000 separate units. Its membership encompasses "80 million workers and students over fourteen years of age." DOSAAF clubs and sport facilities are found in cities and towns throughout the entire Soviet Union. Regulations specify that a DOSAAF unit must be organized in each school, and all school children reaching fourteen years of age, teachers, and technical staffs" are expected to join. Textbooks explain how these units will be formed and what will be expected of members. In 1974, 13 million civilians used DOSAAF facilities in order to fulfill their norms in GTO (ready for labor and defense) military-sport complex. Firing with live ammunition was one of the primary requirements.

In addition to the functions already described, DOSAAF is charged under the Law of Universal Military Obligation with preparing specialists for the Armed Forces from among the seventeen-year-olds who register to be called up the following year. The Soviet Armed Forces require individuals who are trained in one or more of four hundred³ specialties. The number of specialists to be trained is established by the Council of Ministers, and the list of specialties and programs of training are under the supervision of Ministry of Defense. An attempt is made to have those receiving specialist training obtain such training while at work or in school. Most of the training is done in DOSAAF clubs or schools and in regular professional technical schools. [Ref. 46]

The basic element in the DOSAAF organization is the "primary organization". Primary organizations are found in schools, in industrial plants, in offices, in farm establishments, and in enterprises of all types. In July 1971, DOSAAF claimed "tens of millions of DOSAAF members active in more than 300,000 primary organizations". The variability of membership among local areas is high. In one rayon, 90 percent of the adult population were in the ranks of the society. On the other hand, at a certain motor base only 25 percent of the workers were members of DOSAAF primary organizations. Between 1967 and 1970, DOSAAF constructed 560 buildings for military training and military sports activities. This represented two and one half times more construction than DOSAAF had achieved during the four years preceding the enactment of the Law of Universal Military Service. [Ref. 47]

³This number represents the specialties which should be taught by DOSAAF organization to the prospective draft personnel in their preinduction training.

DOSAAF operates a considerable number of airfields and DOSAAF instructors provide flying training. During the 1950s and 1960s a high percentage of famous Soviet Air Force pilots made their first solo flights while they were members of DOSAAF, before entering military service. DOSAAF facilities and training courses are provided at little or no cost. Training is offered to members as "chauffeurs, tractor drivers, operators, motorcyclists, electricians, radio specialists of various types, ship navigators, and others". Such training is designed to improve the quality of workers entering the national economy as well as to raise the technical level of youth entering the Armed Forces.

Any analysis of the Soviet Union's military potential, and its capability to mobilize rapidly and train its manpower for use in the Soviet Armed Forces must consider both the military commissariat system and DOSAAF.

B. CADRES, CONSCRIPTION AND SERVICE REQUIREMENTS

1. Cadres

Based on universal military service, the Soviet forces are a conscript armed forces. This however, does not exclude a strong professional, career component-- officers constitute approximately 20 percent of Soviet military personnel while the enlisted cadre personnel constitute 10 percent. The officer component is professional, too, in that it is increasingly composed of men with higher technical education. On nuclear submarines and missile ships the entire officer complement generally has higher education.

In the Officer's Handbook for Soviet Officers the following paragraph is the beginning of foreword and it exemplifies what the Soviets emphasize in their Officer Corps:

Command, political, engineering and technical cadre play a great role in the life and combat activity of the Soviet Armed Forces. Soviet officers are the backbone, the cohesive force of our Armed Forces. They are the agents of Communist Party policy in the forces, they organize and implement the training and education of subordinates, they reinforce order and good organization in units and on ships. [Ref. 48]

The Soviet Officer Corps is comprised of an increasing number of young officers. More than two thirds of this cadre has no war experience other than Afghanistan.

A frequently cited figure is that 65 percent of regimental officers are in the age group under thirty. Writers point out that it is no longer a rarity for a company or a battery to be commanded by an officer who is under the age of twenty-five. Approximately one third of the Soviet officers have served as privates or NCOs. Many of them are middle or senior grade officers who served in World War II in the non-commissioned ranks. Almost all of the officers in the junior ranks are graduates of military academies and specialized schools of one sort or another. This however does not mean that they had not served in the ranks before being admitted to the military academies. Particularly fine results are obtained at cadet schools by those who enter after serving as soldiers rather than entering directly from school. [Ref. 49]

A second career component of the Soviet Armed Forces is the NCO personnel who have enlisted for a period of two, four, or six years. This cadre includes many NCOs with lower level educational background.

Soviet interest in professionalizing still further the cadre component of its military forces was underlined in 1972 by changes intended to give extended duty service personnel quasi-officer status. Qualified enlisted men could become warrant officers (michman in navy), and ensigns (praporshchik in army) with uniforms and privileges approaching those of junior officers. Extended duty

servicemen who did not want to serve as ensigns or warrant officers, or who could not qualify through special courses or examinations or by attendance at newly developed institutes, remained as extended duty servicemen until the expiration of their two, four, or six year enlistment period. [Ref. 50]

Warrant officers and ensigns enlist for a period of five years. When these ranks were introduced in 1972, Soviet military authorities provided incentives for enlistment by offering ensigns and warrant officers automatic reserve officer status after ten years of service in these grades without any need to take an examination. Officer status could be achieved in five years by examination, usually after study at an appropriate center. It seems evident that these quasi--officer ranks did not attract a sufficient number of former extended duty (enlisted) servicemen or recruits. The regulations bearing on promotion to full officer status were soon changed to enable ensigns and warrant officers to become officers after three years of service by entering higher military schools; and to become reserve officers automatically, without examination, after five years of service. The provision of more attractive conditions has been supplemented by a vigorous recruitment program. Military units urge the reenlistment as ensigns and warrant officers of appropriate military personnel who are being discharged. Military commissariats are told to talk to discharged personnel who register with them when they return home and to suggest enlistment for ensign and warrant officer training. [Ref. 51]

Ensigns and warrant officers volunteer initially for five years and then may volunteer thereafter for periods of three or five years. They may remain in service until the age of forty-five and in the reserves until age fifty. After five years of service, ensigns and warrant officers who have

successfully passed examinations are granted the rank the lieutenant or its equivalent. The same rank can be granted without examination to those who have served for ten or more years and have been assigned officer duties. Ensigns and warrant officers who transfer to the reserves after ten years of service become automatically "reserve lieutenants". The Soviet military were explicit in acknowledging that the new grades were "associated with the greater requirement placed on command personnel and the need to train competent soldiers in a shorter period of time...Ensigns and warrant officers will be found primarily in combat formations". However, a later statement says that ensigns and warrant officers are assigned not only to command but also to technical and Komsomol (Young Communist League) work. [Ref. 52]

2. Conscription

All male citizens of the Soviet Union, regardless of race, nationality, religious faith, education, way of life, or social and proprietary position are obliged to serve in the Armed Forces. It appears that inductees have little choice as to which service they are assigned. Rather, they are selected on the basis of their educational qualifications, civilian skills, political reliability, physical characteristics, and the requirements of the service. [Ref. 53]

Soviet military manpower policy does not content itself with the combined advantages of a volunteer career army and compulsory military service. A third level of military preparation has become increasingly important in the Soviet Union- mass military defense preparations. We have seen that given the present Soviet force size, only about 50 percent of the Soviet eighteen-year-old male cohort is inducted. The half that is not inducted does not escape military training. Most youths in the Soviet Union

participate from an early age in various forms of military training and military exercises, in mass defense activities such as civil defense, in various military patriotic assemblies, marches, and rallies, and in physical training programs with direct military applications. A large part of the adult population is also involved in mass defense work, especially as members of civil defense detachments. All of these measures taken together show a steadily increasing drift in the Soviet Union toward the realization, psychologically and physically, of "a nation in arms". [Ref. 54]

Registration for call-up occurs at seventeen years of age, the year before induction. At that time a medical examination is given, and necessary medical treatment is completed before the youth actually enters military service. Eighteen-year-olds are called to active military duty either in May/June-those who will turn 18 before 1 July-or in November/December for the rest. At these times a call up commission is formed in each military commissariat office; it consists of a chairman, who is the military commissar, and the following members: a deputy chairman, who is a member of the executive committee of the region's soviet of workers' deputies, representatives of the regional committee of the Communist Party, the regional chief of the Komsomols, the chief or deputy chief of the militia, and a doctor. The call-up commission determines the service and branch of service to which each individual will be assigned designating men for each of the five services, the rear services, Civil Defense, Construction and Billeting Troops, KGB troops, MVD troops, or for other special troops, such as chemical, engineering or signal. Quotas are set by the General Staff. Individuals assigned to military construction duty are in a somewhat different category from the others. They must be "fit for physical work," and, if possible, have completed a course at a building school or have a specialty

in a construction or building trade. Another task of the call-up commission is to determine whether an individual will be excused from service or have his service period delayed. According to Soviet law a candidate may be excused for illness or physical unfitness, or service may be postponed in order to continue education. Service also may be postponed if the candidate has two or more children, an invalid wife, a widowed or divorced mother with two or more children under eight and no other supporting children, or one or more dependent brothers or sisters who are under sixteen or are invalids who cannot be placed in a home. Men may be deferred for any of these reasons until age twenty-seven, after which they are no longer subject to induction. Few Soviet males are completely excused from military service. According to the late Marshal Grechko, "almost all" the male population undergoes military training. Deferments for physical reasons are rare; if the individual can perform some useful function in civilian life he also can perform some task in the Armed Forces. The military service should not be considered as only in active military services. As previously explained, military training, military exercises, civil defense activities, military patriotic rallies, and assemblies are included as other versions of military service.

Military Commissariats are a major link between the Armed Forces and the population as a whole, the funnel through which candidates must pass when entering active military service and through which they must return when they are discharged. [Ref. 55]

C. ATTITUDES TOWARD THE MILITARY AND MILITARY SERVICES

The Soviets have taken steps to increase the receptivity of inductees to military training and the incentives of

young people to join the military forces on a permanent professional basis. They have tried to improve living standards, especially for junior officers, and have increased efforts to surround military life with rituals and appeals that associate the virtues of heroism, national service, and adventure with military life. They have tried to build a better image of the military in a very literal sense by providing better-fitting and more attractive uniforms and placing great emphasis on a smart appearance.

The 1968 Law for Universal Military Service contains several articles which spell out the benefits, rights, and privileges of the Soviet serviceman. Many of these are designed to increase morale. The law states that the local Soviet executive committee must "organize send-off ceremonies for those called-up for active duty" (article 32c). Additionally, this committee is responsible for seeing that the wife of a called-up serviceman is provided with a job not more than one month after requesting one and place be available for her children in nursery or kindergarten (article 32d). Active duty and extended duty personnel are given benefits in accordance with existing legislation for traveling on rail, water, highways and air routes (article 69). Additional benefits included "privileged rates" for housing (article 71), tax benefits on cash allowances (article 74), and free postage on letters addressed to or from a serviceman (article 75). A final significant benefit is the right of former serviceman to return to their original place of work or schooling. If he had neither prior to call-up, the former serviceman must be provided with a job one month after request (article 43). [Ref. 56]

Although the Universal Military Law provides some benefits to both of draftee and his family, in Soviet Union, military officials have been making considerable effort to make military more attractive to young inductees, of whom,

most are not likely pleased to enter service because of strict subordination and leaving the relatively easier and more comfortable style of life of the civilian world.

The Soviets are sensitive to the importance of occupational prestige. A 1969 Soviet study shows that in terms of prestige, sales people for retail market, rated only 1.8 on a 10-point scale. In the same study, professional military people (presumably Officers) received a scale value of 4.3. This placed the military forces below scientific and technical occupations such as physicist, engineer-radio technician, medical scientist, engineer-geologist, mathematician, chemist, radio technician, aircraft pilot, engineer in chemical industry, and biologist. These occupations ranged from a maximum of 6.6 down to 5.3 (for physicians). Below physicians came writers and artists at 5.2, university teachers at 4.5, professional military at 4.3, and social scientists in philosophy at 4.2. Primary school teachers ranked 2.5, and housing maintenance workers were among the lowest ranking at 1.2. There is apparently considerable variation in the prestige of the different arms and services. Although firm evidence is lacking, it appears that the navy benefits from a certain esprit and reputation resulting from a relatively heavy infusion of the sons of former officers into this service. When a group of atomic submarines of the Soviet Navy left their base to circumnavigate the globe, the Naval Chief, Admiral Gorshkov addressed all personnel with the words: "You will sail through oceans and seas in which Russian sailors have not traveled for more than 100 years." Soviet naval personnel, particularly officers, probably derive considerable satisfaction from this expansion of the Soviet Naval presence. [Ref. 57]

Despite the intent to enhance the appeal of the military as a career choice, other considerations obtrude that erode the professional status of Soviet military cadres. Of major

importance in this respect has been increasing Party insistence on its role as the leader in all military matters. All victories of the Soviet Military, all doctrinal, technical, and other accomplishments of the military, are due to wise Party leadership. Further, the Party insists with ever increasing emphasis that the primary duty and accomplishment of a military officer reside not in military skills but in promoting the loyalty of the troops to the Party. Insistence that the officer is first and foremost a political rather than a military leader necessarily diminishes the status of the officer. In Soviet society the officer now seems to occupy a modest rank. [Ref. 58]

Soviet military authorities recognize "that a gap exists between the conditions in which students live at home and those of military service. This disparity is often the reason for the difficulties of young soldiers. Therefore, it is necessary to devote attention (in civilian organizations) to familiarizing youth with the demands placed upon them by military service." It is characteristic of Soviet thriftiness to try to escape the cost of reducing the discrepancy between civilian and military standards of living by preparing youth for the worst. However the military have also tried to improve the living conditions of both enlisted men and officers, especially the junior officers. [Ref. 59]

The conditions of life in the military depend not only on what the soldier is provided by the military establishment, but also on what he can buy with his military pay. The pay of the conscript is extremely small and is usually referred to as an allowance. Recruits receive only three to five rubles per month, with the pay varying according to the particular job performed. Soldiers who have completed the required period of service and enter the extended service receive an increase in pay. [Ref. 60]

Soviet military authorities acknowledge that officers are paid "a fitting remuneration" for duties they perform. They affirm, however, that Soviet youth know well that it is not the material benefits offered by the military profession that attract them to officer training schools. One military writer points out that a questionnaire showed that 85 percent of Soviet young officers were motivated by "profound ideological convictions" and only 9 percent associated the officer's profession with high pay. This is contrasted with American studies, which show, it is said, that the principal motivation for entering military service is "the opportunity to earn money." [Ref. 61]

D. WOMEN IN THE SOVIET ARMED FORCES

During the World War I, 5,000 women have served in the Russian Armed Forces. This number has increased up to 1,000,000 during the Second World War. 500,000 of this number served at the front and 150,000 women, including 91 of them as heroes of the Soviet Union, were awarded battle decorations.

Women between 19 and 30 years old who are unmarried or who have no children may volunteer for military service. They may enlist for a two-year term, which can be extended two or four years. They must have no less than eighth-grade education. Women, 19 to 40 with specialties, such as engineering or medical training, can be drafted in peacetime. Volunteers can serve to age 50. All women are subject to the draft in wartime. Women cannot serve on combat ships or planes, or guard anything except women's barracks. They are excluded from service academies, and few become officers. No active duty is allowed during or after pregnancy. Women receive pensions of half pay plus 3 percent for each year of service over 25. The total pension may not exceed 75 percent

of their service pay. Currently 10,000 women serve in the Soviet Military. [Ref. 62]

The selection of the women who satisfies the previously mentioned specifications, is conducted by the Military Commissariats. The number selected and the military specialties for which they are selected are determined by the Ministry of Defense. [Ref. 63]

IV. TRAINING AND EDUCATION

"Bringing up a future soldier begins, if you please, with childhood." This view was expressed in one of the Soviet military journals in September 1972, in the post-SALT I period. Another view on the same theme appeared in Red Star the following year:

A wise saying confirmed in the lives of many generations says it exactly- people are not born soldiers, they become soldiers. Whether in war or peacetime, military labor requires a great expenditure of effort from a person. And this is why the formation of a soldier is not easy. And it should not begin at the moment when the new recruit is enlisted into the ranks but rather much earlier, at the time of the first signs of maturity, during the time of adolescent dreams. [Ref. 64]

On June 27th. of the year 1975, at the graduation ceremony of the Military Colleges which was held at the Kremlin, following quote was addressed by Defense Minister Grechko in his speech.

Comrades, graduates! This day marks a new beginning in your military service. Regardless of the specialty in which you were trained in military college, each one of you go to take up your appointment in the various forces as a warrior for an ideal who has offered himself to the party. Not only are you to be entrusted with powerful weapons, but you have been given splendid military education and training which is in itself a highly valuable asset...The maintenance of the military's combat readiness at a high level and ideological activity among the officers and men in order to strengthen the military are particularly important...You have mastered the basics of Soviet Military science in military college. But only if you apply this knowledge in the practical dimension and constant'y add to it will you be making a contribution toward military progress. [Ref. 65]

Having 5 million personnel in Armed Forces equipped with increasingly modern and high-tech weapons and materiel, the Soviet Union utilizes a highly developed, carefully controlled and centralized system of training and education in every level of Armed Forces' organization extending from

the training of ordinary soldier to the training of staff officers. The Ministry of Defense is responsible for the combat readiness of all forces and is, therefore, in charge of the entire training system.

In the Officer's handbook for Soviet officers written by General-Major S.N. Kozlov, the theory of training Soviet Serviceman is specified as following:

The training of servicemen is a specific pedagogical process. It is organized and conducted in accordance with the policy of Communist Party and Soviet government on the basis of present-day military doctrine, orders of the Ministry of Defense, military regulations, instructions and programs of combat and political training. Its main task is to ensure a high state of constant combat readiness of units, ships, and formations, and their ability to crush any aggressor who dares to disrupt the peaceful creative labor of our people. The mastery of his military trade and the improvement of his knowledge, skills, and abilities are the official duty of every serviceman and the basis of all his activities. The training process extends beyond the training of individual servicemen to the coordination and unification of military collectives. Combat training takes place primarily in the field, at sea, in the air, at launching and firing positions, on airfields and tank ranges. Under simulated combat conditions, the personnel of subunits, units and ships acquire proficiency in the conduct of modern mobile battles and learn how to overcome the difficulties of field and combat conditions. [Ref. 66]

Following sections will cover the overall training and political indoctrination process of the Soviet youth. It also will examine the training and education process of the enlisted personnel and officer corps.

A. CIVILIAN SCHOOLS AND MILITARY TRAINING

In 1967, at about the time the Law of Universal Military Obligation was introduced, the militarization of the entire Soviet population appears to have started. Exact reasons and purposes for the military emphasis still are unknown; however, some speculate that the failure of the ABM system (Anti Ballistic Missile System), which made it desirable for the entire population to learn techniques for survival in event of a nuclear strike, and fear of China and

its huge population may have precipitated the new policy. Whatever the reasons, a major program to make the Soviet Union a nation trained in arms did begin in this period, with the military indoctrination of the very young starting almost in the cradle. By the late 1960s, toy guns, missiles, tanks and other military toys were prominently displayed in children's stores. Children's books, with colored illustrations, showed the glorious, romantic side of military life. Full advantage was taken of "the time of adolescent dreams" to indoctrinate the youth with the power of the Soviet Armed Forces and the honor of becoming a soldier. [Ref. 67]

Since 1966, the Soviet Union has had a vast and comprehensive military patriotic education program. No other country in the world has such an intensive and all inclusive program. The average Soviet citizen lives his entire life in an atmosphere of military semi-alert. Civil defense training begins in the second grade and continues throughout life. The 1968 Military Law established pre-military training in the last two years of secondary education and is supplemented by many volunteer clubs devoted to military education and training. The entire populace of the Soviet Union is prepared for war due to the compulsory civil defense training programs. Training begins in the second grade with twelve hours of lectures and demonstrations. Eight year olds learn such skills as the proper wearing of gas masks and the uses of the bomb shelters. Formal training in the third and fourth grades is left to summer Pioneer camps. Fifth graders spend fifteen hours learning the effects of weapons and reviewing use of gas masks and bomb shelters. They also learn the meaning of various warning signals and rudiments of first aid. Formal civil defense training is left to summer camps until the ninth grade. Students in the ninth grade receive thirty-five hours of civil defense

training. Boys in the tenth grade receive military training while the girls receive a thirty-five hour first aid training. Adults are required to attend twenty-one hours of civil defense instructions to keep them abreast of new methods. [Ref. 68]

The young men who are not enrolled in schools take their military training in institutions, organizations, and on collective farms where large group of people can gather and be trained. The preconscription training whether given in the schools or training centers, is a 140 hour program designed to be equivalent to one year training for a serviceman. Students acquire minimum military know-how and skills in a military technical specialty. One program offers courses in fifteen specialties of which the "most extensive and most popular" are automobile and motorcycle operators, tractor operators, radio telegraph specialists, electrician and military topographer. Selection of specialty is not the choice of the student. The council of Ministers determines the number of personnel to be trained for each specialty. Each club then trains individuals in each specialty in accordance with the set quota. This pre-military training is carried out by military specialists who are either teachers on the staff of the institution or, as is more often the case, an officer of the reserves. [Ref. 69]

Soviet boys and girls between eight and fifteen are expected to be members of the Pioneers. These organizations provide many facilities which include Pioneer Palaces with huge buildings and various sport facilities. Most of the parents recognize that their children's membership to this organization will contribute their future.

The official Pioneer handbook, "Tovarishch", published by the Young Guard Publishing House resembles in its general format the boy scout handbook published in the United States. However, there are basic differences in

content. Each edition of *Tovarishch* contains very attractively displayed section on the Armed Forces. Colored drawings of Soviet Military equipment, as well as the Border Guards and Internal Troops. [Ref. 70]

Tovarishch goes to great lengths to explain that "you in school must prepare yourself for defense of the country, for service in the Army". One method of such preparation is participation in national, competitive "military sport games". The first of these games, *Zarnitsa*, was started in 1967 and now involves approximately 15 million pioneers and other school children annually. *Zarnitsa* proved so successful for the Pioneers that in 1972 the Central Committee of the Komsomols organized similar games, *Orlenok*, for older teenagers. The *Orlenok* games, which have been played annually since, consist of athletic programs and premilitary exercises, including the use of small caliber guns and hand grenades. Participation in *Orlenok* is intended for students--both boys and girls-- in senior classes in regular schools, technical schools, and special secondary schools, and working teenagers in the sixteen to eighteen-year-old group. Competitions, marches, tactical games, and meetings are all designed to prepare the youth for military service and to contribute to the premilitary training program. Both boys and girls learn civil defense measures. [Ref. 71]

Preconscription training is also provided in other voluntary societies like Little Octobrists, Young Soldier, Young Sailor, Red Pathfinders, and other small organizations. In these societies, the boys and girls learn saluting, map reading, military games, marksmanship, and other activities related with military and political activities. DOSAAF has a special place within all these clubs and organizations. Since it is a kind of manpower planning mechanism in overall manpower process, it is examined in

Chapter III, Section 1, under the title of Manpower Planning.

It is helpful to mention about the DOSAAF's role in terms of training and education. This union provides civil defense training, physical exercises, patriotic education, and communist indoctrination. Specialist training, valuable to the Armed Forces includes almost the total specialties. For example, these specialties for Navy include, those of helmsman, signalman, engine-mechanic, electrician, radio telegraph operator, or diver. The total membership of DOSAAF is estimated at forty million, including youths and adults. [Ref. 72]

B. MILITARY TRAINING AFTER INDUCTION

After the call-up for enlisted men and admission to the military academies for officers, the military training and education starts with its every aspects of military professionalism and party indoctrination. From the moment that they wear military uniforms, a long and hard period which has never-ending training and teaching process, becomes most important part of their life. The training of enlisted personnel and warrant officers is different than that of officers, but the essence of the training of this two different groups are the same which dictates a training process, ending with the formation of mentally and physically ready soldiers and loyal party members.

1. Training of Enlisted Personnel and Warrant Officers.

In theory, the young soldier (as he is called until he takes the oath) has received sufficient pre-military training to enable him immediately to take an active part in the regiment to which he is assigned. His first few weeks in service are spent reviewing military fundamentals such as

drill and handling basic weapons. Formal entry into the regiment occurs when he takes his military oath,⁶ a very ceremonial occasion. Certain individuals, selected to become specialists on the basis of their education and training, are sent to special schools for courses that last as long as six months. Candidates for sergeant receive their six months of training in the school run by the regiment. Life of the inductees is harsh, and discipline is severe. Table II shows a typical day in his life. [Ref. 74]

Different types of training are provided to inductees according to their specialties. Strategic Rocket Forces and Air Forces require that a majority of new recruits to be sent to the specialist schools immediately. In these schools, the individual is taught specifically in his specialty with little training in other specialties. It is expected that a soldier performs his assignment in the position where he is assigned, but if his physical ability limits his doing the job effectively, he can be transferred to other less-effort requiring positions. However, at the end, it is guaranteed that the inductee serves this compulsory period as effectively as it should be.

⁶The oath of allegiance is given after the enlisted man has completed his basic training and assigned to permanent station, base or ship. The oath is as following: "I..., a citizen of the Union of Soviet Socialist Republics, by joining the ranks of Armed Forces, take an oath and solemnly swear to be an upright, brave, disciplined, vigilant soldier, to strictly preserve military and government secrets, and to execute without contradiction, all military regulations and orders of commanders and superiors. I swear to learn conscientiously the trade of war, to protect with all means the military and people's property, and to be devoted to my people, my Soviet Homeland, and the Soviet Government to my last breath. I will always be ready to report, by order of the Soviet Government, as a soldier of the armed forces for the defense of my homeland, the Union of Soviet Socialist Republics. I swear to defend it bravely and wisely sparing my blood and without regard for my life to achieve a complete victory over the enemy. Should I break my solemn oath, may the severe penalties of the Soviet law, the overall hatred, and the contempt of the working masses strike me." [Ref. 73]

TABLE II
A TYPICAL DAY IN THE LIFE OF AN INDUCTEE

Time	Activity
0600-0609	Reveille
0610-0630	Exercise (Tidying up)
0630-0650	Barracks time.
0650-0720	Political Information (Morning inspection)
0725-0755	Breakfast
0800-1400	Training period (Fifty minute classes)
1400-1440	Dinner
1440-1510	After dinner time
1510-1530	Maintenance: Personnel, weapon, equipment
1530-1830	Political education work
1530-1830	Equipment maintenance (Tuesday and Friday)
1530-1830	Sports (Wednesday and Saturdays)
1830-1940	Self-preparation and homework
1940-2010	Supper
2010-2040	Personal time
2040-2155	Evening walk and checkup
2200	Taps

Source: A. Yurkov, "The Order of the Day", Mil. Herald,
Jan. 1976, p. 51.

An inductee is provided with uniform when he enters the service. He is responsible to keep his uniform in a good shape. When his service is completed, his civilian clothes which were detained at the beginning are returned to him. Also, before his release time, a new uniform is issued to him. This uniform is also must be kept in good condition and ever-ready to wear in any future call-up time or mobilization exercise.

When a draft completes his compulsory period of service, he may volunteer to stay in the service for extended duty for a period of two, four, or six years or until the age of fifty. Commanders of the units, bases, or ships encourage the good and quality people to stay at the service. The slots which require specialized and experienced people are especially noted and related personnel in these positions are encouraged to volunteer. The draftees who

already finished their services can also volunteer if they are before the age of thirty-five. There also are some specialist positions that are manned by volunteers who are contracted for four years. ever-ready to wear in any future call-up time or mobilization exercise.

The training programs of the enlisted personnel are highly standardized and centralized in order to achieve nationwide coordination and cooperation. Due to the multi-ethnic composition of the armed forces, training and education materials and programs are especially emphasized and instructors are encouraged to take affirmative steps to insure the high level performance and integrity from the training. For example, the overall training program received by a motorized rifle regiment in the Group of Soviet Forces in Germany is the same as the training program of motorized rifle regiment in the Belorussian, Kiev, or Odessa Military Districts. Special conditions, however, are accounted for in the overall plan. For example, units expected to operate in desert or mountainous areas or under Arctic conditions have special requirements, and perhaps special equipment. All of these special conditions are included in the overall plan when it is issued by the Ministry of Defense. Training standards are generated by the various branches of troops, based on the specific knowledge, tactics and equipment needed by personnel in each branch. [Ref. 75]

Soviet training doctrine and practice emphasize combat realism in training situations and consequently field exercises and maneuvers. This emphasis has been attributed to limited operational experience since World War II, but there are other motives as well. Soviet training doctrine is preoccupied with the stresses of nuclear war and insists on rigorous training under simulated battle conditions. Soviet military authorities regret their inability to simulate

nuclear explosions but they have devised techniques for the simulation of radiation. Training authorities recognize that troop performance often breaks down when soldiers have to execute well-learned activities under live fire and are convinced that only repeated conditions of severe stress and high realism will enable soldiers to accustom themselves to the stresses of real battle. The stress on realism and rigor in training derives also from the belief that failure to experience the dangers and difficulties of battle is an evasion of the spirit of communist devotion. Only under severe conditions can the soldier demonstrate to his commander that he has become ideologically hardened. [Ref. 76]

According to the Officer's Handbook edited by General-Major Kozlov, following arguments are stated:

The forms of training, like the whole military pedagogical process, are being constantly improved. Their development depends upon the training tasks and content, the authorized organization of the forces, the specific nature of the combat activities and work of members of the different services and arms of the services, the overall level of development of the personnel and the special characteristics of the fighting equipment. The practice of combat and political training involves different forms of training which can be arbitrarily represented under the following headings:

- theoretical studies;
- field training;
- training exercises;
- live firing and rocket launches;
- drills;
- war games;
- periodic servicing days;

In revealing the characteristic features and structure of different forms of training, military pedagogy emphasizes that, intelligently combined, these forms permit both individual and group training, and steadily, consistently improve the theoretical, practical, and psychological training of all categories of servicemen. [Ref. 77]

2. Training and Education of Officers

The officer corps comprise 20 percent of the Soviet Armed Forces. They are considered the backbone of the Armed Forces. Due to this importance, their education and training is very intensive and requires hard work, dedication and mental and physical qualities which are shaped with loyal party membership.

As it has been in the whole countries of the world, the officers are the commanders and many personal specifications are necessary to become a commander. Being an effective leader is a synthesis of talent, experience, knowledge, and most importantly, education and training. The term "commander" is defined in the book The People, the Army, the Commander, by Colonel Skirido, as following:

The commander of the army of a socialist state is a true son of the people and a champion of communist ideology and state policy among the troops. His personal qualities include: a cultivated intellect, flexibility of thought, the faculty of foresight, military erudition, organizational ability, readiness to rely upon the knowledge and experience of subordinates, strength of will, valor, resoluteness, a willingness to take calculated risks, and preparedness to take full responsibility for his actions. A Soviet commander is also distinguished by special moral qualities: ideological conviction, political maturity, love of motherland, ability to identify with the troops, ability to penetrate into the soldier's heart and inspire him to heroic deeds, and finally, justness, integrity and modesty. These qualities should not be separated from one another; they constitute a unified whole. If a military leader is strong willed, courageous and capable of making decisions, but lacks a cultivated intellect, then his actions will inevitably lead to errors fraught with serious consequences. Conversely, if he is capable of deep theoretical thought, but lacks a strong will, courage and decisiveness, then he is no more likely to succeed. This is why we say that a military leader who successfully fulfills the complex function of leading his troops in an armed struggle is a gifted, talented commander. [Ref. 78]

Marshal Grechko states the following in his book The Armed Forces of the Soviet State:

The officers are the basis and skeleton of the Armed Forces. The combat readiness and effectiveness of units and warships depend to a decisive degree on the level of their training and moral-political job qualities. Therefore the Communist Party devotes the most fixed attention to the training and education of officer cadres. [Ref. 79]

The most significant aspect of the Soviet utilization of the officer corps is that they are technical experts as well as managers. This is because of the inadequate number and quality of enlisted personnel and high turnover rate with very low retention rate as well. Therefore the burden of enlisted training has largely befallen the Soviet line officer who is a specialist rather than a generalist.

Soviet writers emphasize that a substantial proportion of young officers come from families that have a tradition of military service. If this means that many of their fathers served in World War II, the statement is trivial but the same claim seems to be implied in the case of professional military service. In the Soviet study of 1000 young army lieutenants, only about 3 percent are graduates of Suvarov Military Schools (Military preparatory schools). But other Soviet studies suggest that about one-third of the officer cadets come from families with a tradition of military service. A study of young naval officers indicates that among 230 junior and senior naval lieutenants, 202 completed higher naval schools and 13 civilian higher schools. Of these officers, 89 entered naval school from civilian schools, 93 from industry, 14 from agriculture, 58 from naval military service, and 17 from the army. 80 percent were married as compared 75 percent of the Army lieutenants. Prior occupation of one thousand Soviet army lieutenants are shown in the Table III. [Ref. 80]

The Soviet military journals, especially Krasnaya Zvezda, periodically announce openings in various officer cadet training schools. Frequently these announcements indicate that specialties within the school's major field of study can be chosen by the applicant if he is accepted. Generally the schools accept military personnel who are serving their initial enlistment, those on extended service who are less than 21 years of age, or civilian personnel

TABLE III
PRIOR OCCUPATION OF 1000 ARMY LIEUTENANTS

Occupation	Percent
Students	37.0
Production Workers	27.0
Army Servicemen	20.0
Agricultural Workers	5.0
Employed in Komsomol	0.9
Schoolteachers	0.7
Reactivated reserve officers	10.0

between 17 and 21. Applicants must have completed their secondary education, be healthy, and pass the entrance examination at a secondary school level mathematics, physics, and Russian language and literature.

The requirement for Russian language and literature may discriminate against soldiers of non-Russian nationalities. This could be interpreted as an attempt to discourage applications from non-Russian nationalities, but more likely it is based on the requirement that an officer speak fluent Russian, since Soviet minority nationalities do not serve in units formed of their own co-nationals. In Estonia, shortcomings exist in the teaching of Russian in schools employing Estonian as their teaching language. This makes service in the ranks of the Soviet Army more difficult for young men and constitutes an obstacle to their entry to military schools. [Ref. 81]

The Soviet military school system for officers is composed of four basic educational institutions: (1) military preparatory schools; (2) officer schools; (3) military colleges; and (4) training courses. Further, there are (5) introductory commissioned officer's courses for selecting beginning commissioned officers from among soldiers and

non-commissioned officers; (6) courses for those college graduates on their one year of military service who are appointed as reserve officers; (7) schools for the training of officers for such special duties as music and physical training; and (8) schools set up in conjunction with the commissioned officers training courses offered at special or general colleges, etc. The vast majority of those who become commissioned officers every year are graduates of officers schools.

The main characteristics of the Soviet military educational system are as following:

(1) The existence of a large number and many types of military schools. At present there are 17 military preparatory schools (one of which is for the Navy), 138 officers schools, and 22 military colleges. The officers school in particular, except for one group of schools which are common to all the services, are divided according to each military service and the various branches thereof, so that there are as many as 34 types. Looking at these officer schools by military services, there are 59 for the Ground Forces; 23 for the Air Forces; 13 for the National Air Defense Forces; 11 for the Navy; 7 for the Strategic Rocket Forces; 9 politically related; 7 for Internal Troops; 5 for Border Guards. and 4 others for the People's Defense, etc. [Ref. 82]

(2) Scattered locations over the entire country. The military colleges are concentrated primarily in Moscow and Leningrad. However, officers schools are placed in all of the Soviet Union's military districts, but with about half of the total number of officer schools (59 out of 138) concentrated in the three military districts of Moscow, Kiev, and the Volga Region.

In the Soviet Far East, there are four schools in the Far East Military District, a general military branch

command officers upper school, a tank command officers school, a motor command officers school and the Suvarov Ground Forces Preparatory School; and there are two schools in the Baykal Military District, the Air Force's Pilot Navigation Officers School and a technical school. In the Pacific Fleet Region, there is a higher Naval Academy.

(3) Officer schools are the backbone of the training institutions for commissioned officers. In order to become a commissioned officer, one must complete either officers school or the introductory officer course, but compared to the repletteness of the officers schools network, the introductory officers courses for training commissioned officers from among the soldiers and noncommissioned officers are extremely few and on a very small scale. [Ref. 83]

(4) Enlargement of the communications educational structure. Formerly a communications educational system was administered on a small scale only in military command colleges, but since about 1960 such a system has been set up in technical colleges and officers schools as well. Communications education department plays a great role on responding to the need for developments in technical equipment in the military and in the corresponding advances in technical knowledge.

(5) Small scale commissioned officers training courses. It is the Commissioned Officers Training courses which educate commissioned officers from first lieutenant to colonel separately for each course, and which train regimental and batalion commanders and their staff officers. There are only five of these schools, gunnery, artillery, People's Defense, railway troops, and border troops.

(6) Complex administrative structure of the military schools. The Ministry of Defense is responsible for the overall education process for the officers. On the other hand, in the case of the officers school for each service,

the command headquarters of that service is responsible for the educational content and the curriculum, but the actual administration and operation of these schools appears to be the responsibility of the military districts. [Ref. 84]

Soviet military and higher military schools to some extent resemble the three United States service academies at West Point, Annapolis and Colorado Springs. Entry ages of these schools are also similar to American equivalents. Graduates receive a degree roughly equivalent to a bachelor's degree as well as lieutenant's commission.

Advanced professional education and training for Soviet officers are provided primarily by eighteen academies, which in many ways are similar to service schools, staff colleges, and war colleges in United States. However, there are major differences. Courses at war and staff colleges in the United States last one academic year or less. Some service school and staff courses in the United States are measured in weeks. Soviet academies, on the other hand, offer courses that vary in length from three to five years, with the exception of the General Staff Academy, which has a two-year course. Military schools, academies, and other military educational institutions are located in over eighty cities throughout the Soviet Union. Students, faculties, and support personnel of these establishments may compose a force of more than one-half million men and women. Of this number, between three hundred and four hundred may be generals and admirals, serving as commandants and department or faculty heads. [Ref. 85]

Military and higher military schools are the basic sources of the Soviet officer cadres. As mentioned earlier in this chapter, the Soviet officer is a specialist not a generalist as it is in the United States Armed Forces. They are educated as an expert and specialist in the particular component of the Soviet Armed Forces.

Each branch of the Soviet Ground Forces --motorized rifle troops, tank troops, rocket troops, and artillery and troop air defense-- has its own command and engineering schools which provide commissioned officers for that branch. For example, tank troops have six command schools and two tank engineering schools. Troop air defense has four command schools and one surface-to-air missile engineering school. Troops of National Air Defense, not to be confused with the troop air defense of the Ground Forces, have their own specialized schools for preparing officers for surface-to-air missile branches of that service. The annual number of graduates of commissioned from each school is believed to be 250 to 500, with 300 to 350 a probable average. Since there are about 140 schools, some 50,000 lieutenants may be commissioned each year. [Ref. 86]

Military schools for officers consist of three kinds of schools. Preparatory Schools, Officer Schools, and Officer Colleges.

a. Military Preparatory Schools

Among the military preparatory schools, there are Suvarov Preparatory Schools for Ground Forces and Nakhimov⁷ Preparatory School for the Navy.

These schools offer a civilian senior high school education as well as the military knowledge for future military education. There are 16 Suvarov Preparatory Schools but only one Nakhimov Preparatory School. The students are generally the sons or relatives of the retired or active military personnel due to the old tradition of accepting sons of veterans and those who died in wars. But, still there is no discrimination between the ordinary ones

⁷Suvarov was a famous commander and a strategist in the latter half of the eighteenth century, and Nakhimov a famous admiral of the nineteenth century.

who do not come from veteran or military background families and the ones mentioned above.

These schools provide the main student flow to the officer schools. Being graduated from one of these schools is a source of pride for the commissioned officers.

Table IV gives the names and locations of the military preparatory schools for Ground Forces. [Ref. 87]

TABLE IV
GROUND FORCES MILITARY PREPARATORY SCHOOLS

Name of School	Location
Vorenezh Mil. Prep. School	Moscow Mil. District
Caucasus Mil. Prep. School	Caucasus Mil. District
Kazan Mil. Prep. School	Volga Mil. District
Kalinin Mil. Prep. School	Moscow Mil. District
Kiev Mil. Prep. School	Kiev Mil. District
Kuybyshev Mil. Prep. School	Volga Mil. District
Leningrad Mil. Prep. School	Leningrad Mil. District
Minsk Mil. Prep. School	White Russia Mil. Dist.
Moscow Mil. Prep. School	Moscow Mil. District
Novecherkassk Mil. Prep. School	North Caucasus Mil. Dist.
Saratov Mil. Prep. School	Volga Mil. District
Sverdlovsk Mil. Prep. School	Ural Mil. District
Stavropol Mil. Prep. School	Volga Mil. District
Tambov Mil. Prep. School	Moscow Mil. District
Tula Mil. Prep. School	Moscow Mil. District
Ussuriysk Mil. Prep. School	Far East Mil. District

(Nakhimov Military Preparatory School for Navy is in Leningrad)

b. Officer Schools

Officer schools are divided by services and branches of the services. Their entrance requirements are almost identical, with the age for civilians who have completed a middle school education at 17 to 21, and that for soldiers and non commissioned officers to be under age of 23. [Ref. 88]

Entry into the schools is by competitive examination. Military authorities hope to have at least three candidates for each vacancy.

TABLE V
OFFICER SCHOOLS, TYPES AND THEIR NUMBERS

Specialty of school	Period in years	Its number
<u>STRATEGIC ROCKET FORCES</u>		
Mechanics	5	2
Electricity	5	3
Electronics	5	2
<u>GROUND FORCES</u>		
Motorized Weapons and Tank	4	9
Commanding Off. for tanks	4	7
Tank Technicians ⁴²		
Artillery Command Off.	4	6
Artillery technicians	4	2
Antiaircraft Artillery- Command Officers School	4	4
Antiaircraft Artillery- Technical Officer School	5	1
Army Engineers Comm. Off. Sch.	4	3
Vehicle Command Officers Sch.	4	3
Airborne Command Officer Sch.	4	1
Communications Comm. Off. Sch.	4	9
Comm. Technical Officers Sch.	5	2
Survey Command Off. School	4	1
Railway Command Off. School	4	1
Chemical Command Off. School	4	2
Construction Officers School	4	3
Rear Officers School	4	2
Technical Rear Officer Sch.	4	1
<u>NATIONAL AIR DEFENSE FORCES</u>		
Pilots and Navigators	4	2
Aviation technical off. Sch.	3	1
Radio, Electr. Comm. Off. Sch.	4	2
Antiair. Missile Comm. Off. Sch.	4	3
Antiair. Missile Techn. Off. Sch.	3	5

Komsomol organizations, DOSAAF instructors, and other party and military affiliated organizations are urged to encourage those in their units whom they consider

TABLE VI
OFFICER SCHOOLS, TYPES AND THEIR NUMBERS.(CONTD.)

AIR FORCES

Specialty of School	Period in years	Its number
Pilot Aviation Off.Sch.	4	11
Navigators Aviation Sch.	4	2
Aviation Techn.Off.Sch.	3	10

NAVY

Navigation Officers	5	6
Naval Engineering Sch.	5	4

POLITICAL SECTION

Political Off.Sch.	4	9
--------------------	---	---

BORDER TROOPS

Ground Unit Comm.Off.Sch.	4	2
Naval Unit Comm.Off.Sch.	4	2
Border Units Political Pers.	4	1

INTERNAL TROOPS

Internal troops Pol.Off.Sch.	4	1
Internal Troops Comm.Off.Sch.	3	4
Internal Troops Technical- and Accounting Officer Sch.	3	1

OTHER SCHOOLS

National Music Sch.Military Commanders Faculty	5	1
Physical Education and Sport School	5	1
Firefighters School	3	1

outstanding to prepare for the examination. By regulation, study time is made available for those on active military duty who wish to become candidates. Advertisements usually appear in February or March of each year in Red Star and certain other Soviet Military publications, listing the military and higher military schools and advising those interested how and when to apply. Readily available books in

military bookstores and military book sections of regular bookstores give detailed admission requirements and list areas of recommended study. [Ref. 89]

A candidate can apply for only one school. Exams are both oral and written form in the areas of mathematics and science. After the admission to the schools, depending upon the type of the school, a three to five year period of study begins. All graduates are commissioned as second lieutenant upon the graduation from officer schools. The period of study for Naval Academy, five years, is the longest among the other academies or officer schools.

Table V and VI shows the types and numbers of the military officer schools related to each of five major and other secondary forces. [Ref. 90]

c. Military Colleges

There are two kinds of military colleges in the Soviet Union. They are divided in a general way between command and technical colleges. The age limits for these colleges vary between 28 and 45 years of age or first lieutenant and colonel as of ranks. The primary objective of these colleges is to train regimental and battalion commanders by means of selective examination.

With the exception of the General Staff Academy, Soviet Military Academies are specialized, in much the same manner as the military and higher military schools, and all theoretically are at the same level. The Strategic Rocket Forces have their own academy, the Ground Forces have a tank academy, as well as an artillery academy, and other services also have their own academies. There are also specialized academies for the arms and branches that are not specifically under one service, such as the Military Academy of Rear Services and Transport. Completing the course at an academy is of major importance and will greatly influence

the remainder of the officer's career. An officer who graduated from a higher military school with a gold medal is required to pass only one examination with a good mark. An officer who has won good ratings for his unit may be selected for an academy if he simply passes the entrance exams. The purpose appears to be to weigh an officer's overall potential, not simply his academic ability. [Ref. 91]

Frunze Military College is one of the most distinguished colleges in Armed Forces. The students of this school come from all branches of the Ground Forces, but the majority is made up of those from the motorized weapon, tank and artillery branches. They are educated in the staff duties of the regimental, division, and army levels, and are trained as commanding officers of the division commander rank.

The General Staff Headquarters College is the highest Soviet Military College. Here, high ranking commissioned officers ranging from colonel to lieutenant general, who are admitted upon the nomination and recommendation of the Defense Ministry, are given an education to enable them to take up duties in the highest military bodies. At present, nearly all the highest generals in the leadership of the Soviet Military are graduates of this school. Officers of the rank of general also come to study there from the Warsaw Pact Countries. Table VII shows the names and locations of the Soviet Military Colleges. [Ref. 92]

C. POLITICAL INDOCTRINATION IN SOVIET MILITARY

Any examination of the Soviet soldier's training and readiness must begin with a look at the ideological training and communist indoctrination because it permeates every facet of Soviet life. In Soviet Military Administration

TABLE VII
SOVIET MILITARY COLLEGES

Name of the College	Place of the College
-Voroshiv, Mil.General Staff Headquarters Col.	Moscow Mil.Dist.
-Frunze Mil.College	Leningrad Mil.District
-Malinovskiy Armored Troops College	Moscow Mil.Dist.
-Kalinin Artillery College	Moscow Mil.Dist.
-Kuybyshev Army Engineering College	Moscow Mil.Dist.
-Military Communication Col.	Leningrad Mil.District
-Gavarov Mil.Radio Technician College	Kiev Military District
-Timochenko Military Chemical Defense College	Moscow Mil.Dist.
-Military Rear and Transport College.	Leningrad Mil.District
-Gagarin Air Force Technical College	Moscow Mil.Dist.
-Zhukovskiy Air Force Technical College	Moscow Mil.Dist.
-Mozhaiskiy Military Technical College	Leningrad Mil.District
-Dzerzhinskiy Military Technical College	Leningrad Mil.District
-National Air Defense College	Moscow Mil.Dist.
-Navy College	Leningrad Mil.District
-Lenin Mil.Political College	Moscow Mil.Dist.
-Kirov College of Military Medicine	Leningrad Mil.District
-College of Military Law	Moscow Mil.Dist.
-Military Foreign Language College	Moscow Mil.Dist.
-Moscow College of Finance	Moscow Mil.Dist.
Military Division	Leningrad Mil.District
-College of Mil.Education	Leningrad Mil.District
-Kruilov College of Ship and Engine Construction	Leningrad Mil.District

system, there are two chains of command. The first is the traditional chain of command which runs from the most junior soldier to through the Commanding Officer up to the highest military levels. The second chain of command is that of the Main Political Administration. It extends from the Political Control Officer, to the highest levels in the Soviet Government. This administration is responsible for political

control of each member of the Armed Forces. Also, it is responsible for effective professional military training, good morale and discipline and, the maximization of Soviet combat capability.

Soviet military personnel especially the officers are expected to conform strictly to Marxist/Leninist doctrine. All Soviet officers are subjected to 60 hours per year of political instruction, while the enlisted personnel have 160 hours per year. [Ref. 93]

That political indoctrination is an integral part of military training reflects, of course, the power of the Party in the military and its interest in using political indoctrination to reinforce its power and the power of its leaders. The Army is "a good school for ideological...development", and for the continuation of Party indoctrination begun in the years before induction into the service. Marshal Grechko did not hesitate in his writings to subordinate professional military skills to Party work. "The first and foremost requirement of officers is to be ideologically convinced...an active champion of Party policy." Colonel General M. Tankayev, astonishingly affirms that "the Soviet officer is above all a political indoctrinator". And Krasnaya Zvezda (Red Star) editorial claims that "constant political work among servicemen is the paramount task of commanders". [Ref. 94]

The Party interaction to the military administration is different in each level of administration. The Chief Political Administration of the Armed Forces has a subordinate branch in each of the military districts into which the country is divided; the chief political administration of a military district works, in turn, through the political sections of the subordinate corps and divisions. The head of the chief political administration of a military district is generally also the deputy commander for political affairs

(zampolit) of the district and a member of the three man military council which governs the district. Similarly, the head of the political section of a corps or division is generally the zampolit of the corps or division political section. Thus the zampolit is subordinate not only to the commander of his military unit but also to the zampolit of the next higher military unit, who in effect appoints him. This principle of dual subordination runs from top to bottom [Ref. 95]

D. PARTY AND THE KOMSOMOL (YOUNG COMMUNIST LEAGUE) IN MILITARY.

Just as the majority of officers are members of the Communist Party, so most Soviet enlisted men are members of Komsomol. This is as much as three-quarters of total enlisted personnel. During the two or three years of service, remaining draftees become Komsomol members. The young officers come mostly from officer cadet schools, and almost 100 percent of these cadets belong to the Komsomol before they even enter the officer cadet school. Once the young cadet has graduated into military service proper, he is unlikely to remain a Komsomol member very long, especially given the pressure to recruit young officers into the party. Among young officers less than 30 percent are still members of the Komsomol, and almost two-thirds are already members of Communist Party. The importance of Party membership in staff positions is reflected by the fact that 40 percent of all army and navy Communist Party members work in military staff and military administrative bodies. [Ref. 96]

The Party loses no opportunity to instruct officers and troops that it, and not the military commanders, is the leader and controller of the military. A political lesson

provided for political officers to be taught to the troops allots eight hours to ensuring that military personnel understand the full scope of Party dominance. The points covered in the lesson include: (1) the party is the leader and indoctrinator of the armed forces; (2) leadership of the armed forces by the party constitutes the foundation of military construction; (3) the Party indicates and implements military policy and develops military doctrine; (4) the Party determines the general direction of the life and combat activity of the armed forces; and (5) the Party develops basic measures with respect to the maintenance of combat readiness and determines the content of the morale, political, and psychological training of the troops. [Ref. 97]

The minimum age for Party membership is eighteen years and most of the enlisted personnel of Armed Forces are between the ages of 18 and 28, the age group for Komsomol. It is possible to be a member both Komsomol and Party. The mission of the Komsomol in the Armed Forces is to actively help the CPSU (Communist Party of the Soviet Union) organizations implement the Party's policy and enhance combat power. Komsomol organizations are established in battalions, squadrons and similar units as well as in military educational establishments and construction units, provided there are at least three Komsomol members in the unit. These organizations concentrate on the task of educating class conscious, ideologically staunch, efficient, and selfless patriots. They are credited with enhancing the combat preparedness of the units and attempting to direct the young servicemen's efforts toward mastering the weapons of their particular service. [Ref. 98]

The military differs from the civil society in another way that creates a difficulty for the Party. The Party faces a problem in the civil society in trying to make a vanguard

and elite out of a Party in which one out of every three men 30 to 60 years of age is a member. This dilution of the Party is far more extreme in the military where over 70 percent of officers are Party members and where 90 percent are members of the Party or Komsomol. Under such condition, there is a danger that rather than being a vanguard or an elite, the Party in the Armed Forces may become militarized. The Party will, therefore, continue to have a more than special concern for the purity of Party morality and discipline in the military, a concern obviously fortified by the importance of the military as a locus of great physical and therefore political power.

There is another point at which Party concern with the military has a character specific to the military. The Party claims total and final authority in all matters, large and small, of military concern. Military doctrine, military planning, and military strategy are, unlike the problems of economy, much more likely to be viewed as requiring direct experience and a continuing exercise of professional skills. Party claims in recent years to leadership in all military matters has a certain stridency stemming precisely from the realization that Party authority in these matters is less easily established and defended. [Ref. 99]

V. PERFORMANCE APPRAISAL: CHARACTERISTICS OF SOVIET SOLDIER

Human performance is difficult to predict and to assess. Quantifiable factors such as the number of troops or number of war machines are not the only variables which can be used as predictors of military capabilities, yet military analysts or staff colleges usually depend on the data which is available in terms of number of divisions, number of ships, aircrafts, tanks, etc. Because these data are easy to collect, analyze and evaluate, generally they are considered as the basic variables of military power. The trend to quantify military power started with the early military theoreticians like Machievelli, Vauban and Jomini. The introduction of statistics also enhanced this trend and the final product of mathematics and statistics-operation research brought this trend to a new height.

Operations research in World War II, clearly enhanced fighting capacity in a number of areas, but has it aided planners in assessing enemy or friendly force capabilities? Although operations research and its descendants have had their successes, many have expressed skepticism regarding such rigorously quantified approaches. In operations research techniques, there are many situations that the probabilistic techniques are utilized in order to make inferences about the current subject matter, like a war game or capability analysis of an armed force. But, contrary to the quantified phenomena which dictate that "one with over-numbered equipment and relatively advantageous geography and many other positive factors, tends to win", the history of wars and battles shows a great deal of unexpected military victories which are totally uncorrelated with the quantified military power indicators. Surprise, diversion, speed,

intensive attacks and many other military art techniques account for these unexpected results. But, these techniques are also the outcomes of many many other variables. Quantitative measures of military power avoid these subjective and intuitive considerations. Especially in the contemporary world environment, these subjective considerations have a distinctive place due to the nature of today's world, means of civilization, mass media, new areas of science, mentality formation of post-war and nuclear age youth, philosophic approaches to the legitimacy of war, considerations about the will of nation to support of a possible war and many other subjective matters which shape the most distinctive and unpredictable factor, the human factor.

The Soviets generally refer to this factor as spiritual force. In their military literature, this term is as common as the term war. The following paragraph was taken from the Soviet book, The Revolution in Military Affairs, written by Col.General Lomov. Under the title of "Spiritual Forces of Society and the Increase of Their Role in Modern War", he says as following:

A war develops from the actions of armed persons. Without their intense and self sacrificing struggle, victory in a modern war against a strong enemy is impossible. Human muscle power has long ceased to play the decisive role in defeating enemy troops and achieving victory, and on the other hand the spiritual forces of the people and the armies of the warring nations have acquired enormous significance. Victory in a modern war will be on the side of that state or coalition where the peoples and personnel of the armed forces will have an advantage in tenacity and endurance, in the ability to keep the will for victory under conditions of the most severe tribulations, as well as in culture and scientific-technical preparation. In terms of a war, the spiritual forces of a society are nothing more than the readiness and ability of the masses to waging war, without consideration of the difficulties, hardships and losses, the moral strength, the will for combat and victory, the ability to resist the pressure of a hostile ideology and psychology, and a level of education and culture among the masses necessary for waging war. The spiritual forces of society, from the standpoint of their structures, are the reason, ideology, and psychology of the classes and strata comprising it, national self-awareness and will viewed on the level of society's ability to mobilize its forces and reserve, and to focus them on solving military problems. In the structure of spiritual forces a decisive place is held

by the predominant ideology and social psychology which comprise the morale and political potential in their relationship to the war. [Ref. 100]

The Soviet soldier is a combination of many psychologic factors. The following sections will examine these factors and their effects over the Soviet soldier as the available information about these most abstract notions can permit.

A. PATRIOTISM OF SOVIET SOLDIER

In the Soviet Officer's Handbook, the following paragraph states the patriotic fundamentals for Soviet people.

In our Soviet land, the reinforcement of military might and the Armed Forces has become a genuinely national matter, and the defense of the socialist Fatherland the sacred duty of every citizen of the USSR. Recognizing the extreme importance of the unity of the army and the people in strengthening the defense of the nation, the CPSU gives this matter its unremitting attention. The report of the Central Committee CPSU to the 23rd. Party Congress emphasizes that: "It is essential to improve civil defense and military-patriotic work among workers, especially young people, to strengthen the links for providing voluntary assistance by military units and subunits to staffs of production organizations, training establishments, collective farms and state farms and to be more concerned about the needs of the soldiers and officers of the Soviet Army and their families. The entire Party and Soviet community are obliged to be constantly occupied with this matter. [Ref. 101]

Soviet analysts of past military successes often attribute them to the two emotions of love and hate. Love the Motherland and hate the enemy. Thus, the success of partisans and guerillas in World War II was due to the fact that "they possessed the greatest of all things which a war is won-passionate love for their country and burning hatred for the invader". [Ref. 102]

Western writers have tended to note a decline since World War I in the intensity with which patriotic emotions motivate soldiers. Soviet propagandists, however, show no inclination to acknowledge a lesser role for emotion. The lesser emphasis on love for the motherland is due in considerable measure to the fact that love of the motherland

tends to be comprised in many formulations by the precedence given to love of and loyalty to the Party. It is not uncommon for Soviet servicemen to be taught "to go through fire and water," not for the sake of their homeland, but "for the sake of the great ideals of the Communist Party." [Ref. 103]

In the multi-ethnic Soviet society the Soviet army is undoubtedly one of the most important instruments of national integration. The still predominantly Russian character of the Soviet Armed Forces reflects the demographic realities, the military traditions of the Tsarist army that have continued strongly to influence the Soviet Army's character, and the qualitative hegemony the Russians enjoy in the Soviet political life and in the society at large. In the Soviet theory and practice, the Russians are considered to be 'the leading nation', and the one organization where this is demonstrated most clearly is the Soviet Army. [Ref. 104]

The Soviet patriotism of non-Russian personnel in Soviet armed forces is questionable. Their implicit struggle for cultural and linguistic autonomy borders on nationalism as opposed to Soviet patriotism. And this is a major concern for military administration. Due to this nationalistic syndrome and past experience from the World War II^{*} Soviet military management is biased to be doubtful about the Soviet patriotism of non-Russian people, even though there has never been a clear statement about this shortcoming in Soviet writings.

^{*}Under the pressures of World War II, the regime's fears of minority disloyalty resulted in the eastward deportation of entire groups of minority peoples. These fears were not unfounded; several hundred thousand non-Russians defected to the Germans to fight against the Soviet state during the World War II.

The Party sees the army as the school of the nation, and political education, individual recruitment base, ethnically-mixed units, and the training program, are all designed to mould the multi-ethnic manpower into a unitary product, a soldier imbued with the spirit of 'Soviet patriotism', with undivided loyalty to the Soviet Union, to the Party, and to the ideas of 'proletarian internationalism at home and abroad'. The value of such indoctrination for the Soviet Army's combat effectiveness is obvious; as one Soviet general put it, it serves 'to knit soldiers together into a monolithic combat group to be reflected in enhanced combat readiness'. [Ref. 105]

Much of the Soviet patriotic indoctrination attempts to whip up hatred against rather abstract entities, such as "the imperialist aggressors." To be sure, the political officer in his lecture may translate such phrases into more concrete and hate-inspiring terms, but the popular military press often contents itself with these vague "imperialist references". Soviet propagandists are aware that references to the Nazis and to fascism are still capable of arousing deep emotion in the Soviet Union and the hate the enemy theme sometimes seems to revive World War II memories. [Ref. 106]

B. PSYCHOLOGY AND MORALE OF THE SOVIET SOLDIER

General Von Clausewitz, the most important military strategist referred to morale element in his book on the war, as following:

Moral forces are amongst the most important subjects in war. They form the spirit which permeates the whole being of war. These forces fasten themselves soonest and with the greatest affinity on to the will which puts in motion and guides the whole mass of power, uniting with it as it were in one stream, because this is moral force itself. [Ref. 107]

Soviet military authorities appreciate the value of solidarity and morale in the armed forces. but nonetheless they show a certain unease in dealing with these intangible, elusive qualities so different from the specificity of regulations and the judgements of guilt and innocence to which they give rise. Social cohesion and morale cannot be "ordered" and cannot be "enforced." Even the instilling of military skills lends itself to a certain degree of forceful imposition and to a precise testing of the degree to which learning has been achieved. But solidarity and morale are desired qualities not amenable to this type of treatment. [Ref. 108]

In the book War and the Army, the importance of morale-psychologic factors in Soviet Armed Forces are mentioned as following:

The morale of the army plays a decisive role in the war because, as a material force, it can raise or lower the fighting efficiency of the troops. Only if morale is high can all the hardships of the modern armed struggle be endured and military equipment be used with the greatest efficiency. Low morale damages the fighting qualities of the troops. Thanks to the high morale the professional skills of troops transform into genuine mastership, which can be attained only if a creative attitude is displayed, and is impossible where the military duties are fulfilled as a formality. A high morale cements the other element of the combat power of the troops, multiplies their strength. A high morale increases the flexibility of the organization and hardens the will of the troops, strengthens discipline which steadily grows more essential as technical means of struggle, the methods and forms of warfare become more diversified, and the political aims of the struggle grow more decisive. [Ref. 109]

In the Soviet military thought and military art, the fourth law of war is defined as following.

The course and outcome of war depend on the correlation of moral-political and psychological capabilities of the people and armies of the combatants. [Ref. 110]

This helps to account for the intensive "moral-political" indoctrination of the Soviet people as a whole and of their Armed Forces in particular. In case of nuclear warfare the psychological preparation of the population as a

whole will have unusually great significance. From the very outbreak of the conflict the entire population would face the threat of instant annihilation. The nation that has better prepared its population psychologically and provided training to enable them to hold strong points, keep vital centers in operation, and restore the economy to its essential minimums would more likely emerge the victor. [Ref. 111]

Morale problems are almost certainly more damaging to the Soviet Military than the disciplinary problems. The major influences depressing morale at the troop and junior officer level are the enormous, unflagging pressure of military duties, constant surveillance, and political indoctrination.

The disregard for physical comforts --despite improvement in the living standards of recruits and junior officers in recent years-- plays a role in depressing morale, a role that is partly moderated by the relatively low standard of living of recruits from countryside. The low military standard of living would have a less depressing effect on morale were it not reinforced by the grim pace of military existence. For the better educated and better off urban youth, army life, with its strict subordination and endless political indoctrination, is especially disagreeable, although some of the urban youths may find compensations in the greater ease with which they can acquire various specialist ratings that provide personal satisfaction and perhaps, more agreeable duty hours. Some personnel have other compensating rewards, such as opportunities in naval service to "see the world", or in the air force to be part of a romantic occupation. The Party and Komsomol activists, too, may find military life less depressing than do others, partly because of their authoritarian role, partly because of career rewards that may come to Party activists, and

partly because of them are motivated by a sincere Party fervor. [Ref. 112]

One major group whose morale is subject to considerable pressure by army life are the recruits from the minority (non-Russian) nationalities, especially those whose knowledge of the Russian language is rudimentary. It is possible, of course, that such recruits develop a passive resistance to the system and intentional non-comprehension. Given the length and severity of compulsory military service, it is evident that those who serve are, for the most part, greatly disadvantaged over those who do not. Whether exemption produces any special bitterness among those who do serve is hard to say. Although there are indications that youth do not want to be inducted, discrimination itself does not seem to have especially depressing effects on the morale of those who are. It is likely that where such effects do exist, they are associated with other social discriminations such as those related to nationality or class. [Ref. 113]

C. INITIATIVE AND PHYSICAL STRENGTH OF THE SOVIET SOLDIER

Initiative of combat personnel provides independent action which is very important for success in combat. Acting independently when it is necessary is one of the principal traits of a commander. An armed force having commanders with high initiative can overcome many lateral problems of Command, Control and Communication.

One of the primary objectives of the Soviet training programs is to provide the development of initiative and creativity for its officer corps. Initiative in Soviet military forces is encouraged and the insufficient freedom of action of Soviet officers is seriously criticized by military experts and generals. The book To Creatively Solve Military Problems (Boevye Zadachi Reshat Tvorcheski), by

Col. General Tretiak, discusses the need for Commanders to be flexible in battle, to utilize varying methods to take advantage of changing conditions, to avoid ossification, formalism and patterns, and to display initiative' and self-reliance. Soviet military instructors especially emphasize the value of independent creative action by officers on the battlefield and resourcefulness of every officer. They generally give practical examples to the students about this issue.

Recent Soviet concern with the ill effects of restrictions on officer independence and their consequent fear of responsibility is certainly related to long standing problems of military leadership, but a new note of urgency stemming from the existence of nuclear weapons can be detected in Soviet discussions of how much freedom should be allowed officers. In the June 3, 1972, issue of the Krasnaya Zvezda, the following passage appeared:

In connection with the revolution in military science there is an even greater increase in the significance of initiative and independence. Under present day conditions a commander cannot count on receiving exhaustive instructions from a senior commander at all stages of the battle. In complicated and tense situations, under conditions created by unexpected and sharp changes in the situation, the commander will have to make responsible decision on the basis of the overall concept of action. [Ref. 115]

'An evaluation of affairs in the Belorussian Military District illustrates his point and spells out some deficiencies. Some officer do not bother with independent search for information about the enemy. They simply wait for information from superiors. Contrarily, some superior officers provide such liberal amounts of information to subordinates that the subordinates rely totally on it. Both conditions stifle initiative. One attacking subunit of a tank regiment successfully performed its day's mission and prepared to continue the attack the next day. That night the senior commander worked out the mission and plans of the subunit. When on the following day conditions changed, the subordinate subunit commander was unable to cope. The unit was attached piecemeal and unsuccessfully. The subunit commander evidenced lack of flexibility caused by practices of the senior commander. [Ref. 114]

In World War II Soviet military power suffered from the lack of initiative in their lower level troops. In high command level however they exhibited initiative and a flexible decision making process. About these high command officers, the German observers wrote the following during the war:

The higher echelons of Russian command posts proved capable from the very beginning of the war and learned a great deal more during its course. They were flexible, full of initiative, and energetic. The extraordinary industry with which these commanders went about their duties was characteristic. [Ref. 116]

Contrarily the Germans observed relatively lower flexibility and fear of responsibility in the Soviet lower level troops such as division and below levels. The observation of Erhard Raus, a four star general during the war, is as follows:

The Russian infantryman was a member of the mass, preferring to fight in concert with others rather than to be left to his own devices. In the attack this was evidenced in the massed lines, sometimes almost packs; in the defense it was shown by the stubbornly resisting bunker complements. Here there was no individual action. [Ref. 117]

The Soviets, emphasizing historical lessons to prevent the repetition of past errors, ever-increasingly insist on development of their personnel's initiative and capacity to take responsibility. Nevertheless, every commander in the armed forces "is responsible for the actions of his subordinates as well as his own". The commander, therefore, has a strong incentive to restrict the initiative and independence of his subordinates if he can thereby decrease the chances of the latter making major errors for which he will be held responsible. The commander may very well hesitate to follow this advice to trust the young officer and to support reasonable initiative. [Ref. 118]

Soviet people live in a land with one of the harshest climates of the world. Because of the climate, Soviet

people became accustomed to survive under harsh natural conditions throughout the centuries. Since they are ever encountered with the difficult living conditions of the motherland, training the Soviet military personnel for real-like combat scenarios should not be hard, at least, in terms of winter time war conditions. Their fleets also encounter with the harsh sea environment. Most of their passage-to-ocean ways are mostly in cold regions like the North Sea and Baltic. In general, we can say that an ordinary Soviet soldier is more familiar with the cold weather than with the hot weather.

General physical characteristics of Soviet soldier can be summarized as following:

1. They are strong and determined enough to cross rugged and seemingly impassible terrain of USSR.
2. They are self sustainable in sub-zero temperatures for long periods.
3. Due to the climate, nature and their nutrition, generally they live longer, they are more immune to illnesses, and they recover from injuries in relatively shorter times.
4. They can exploit the nature wisely for war-fighting purposes such as camouflage and cover.

The following quote is from an analysis of German operations in Soviet front during the World War II.

The frugality of the Russian soldier was beyond German comprehension. The average rifleman was able to hold out for days without hot food, prepared rations, bread or tobacco. At such times, he subsisted on wild berries or the bark of trees. His personal equipment consisted of a small field bag, an overcoat, and occasionally one blanket which had to suffice even in severe winter weather. Since he traveled so light, he was extremely mobile and did not depend on the arrival of rations and personal equipment during the course of operations. [Ref. 119]

Soviet battlefield philosophy, with its stress on rapid continuous attack, demands great endurance from the Soviet

soldier. Consequently, the physical conditioning of the soldier is an integral element of the overall combat efficiency of the Soviet military.

Physical training period for an average unit like battalion covers 12 hours a month which includes 6 hours of gymnastics and 6 hours of obstacle crossing and jogging. The shortcomings related to physical training of military personnel as stated in Soviet self-criticism writings are as follows:

1. Lack of knowledge of some officers on physical training.
2. Insufficient quantities of special training manuals for teaching some sports and for training qualified coaches.

It is believed that the program is considered by the Soviets to be successful. No major revisions are anticipated in the near future. [Ref. 120]

D. LEADERSHIP AND MOTIVATION TO FIGHT

Leadership in war constitutes one of the most complex and responsible areas of human activity. During the World War II, Soviet armed forces provided pure examples of leadership and motivation to fight. After the Battle of Stalingrad, Franklin Delano Roosevelt, President of the USA, commenting on the significance of the Soviet victory, stated: "Such achievements are possible only to an army that has skilled leadership.." [Ref. 121]

Motivation to fight is the final outcome of the effective leadership. Since the leadership is a function of many personal traits and circumstances, the prediction about the leadership is impossible. Only way to improve leadership skills is continuous training with the strong indoctrination which supplies the intangible element of combat

effectiveness. The legality of conflict, the reason of armed forces, the traditional philosophy of the nation on the current problems and conflicts are the examples which might shape the philosophical background of a soldier which then causes the formation of intangible element. Leadership uses this intangible element to retrieve motivation.

Hate the enemy, love the motherland; these complementary injunctions of Soviet indoctrination were taught by Lenin himself, and it appears that one can scarcely have an adequate love for the motherland without having an equally intense hatred for her enemies. Although love for the motherland is a "powerful source" from which Soviet fighting men draw their readiness to endure and take risks, hatred for the enemy "is the most important component part of the perseverance and heroism of the Soviet troops". [Ref. 122]

According to the German military writings analyzing Soviet motivation to fight during World War II, the following results have been obtained: [Ref. 123]

1. Love for mother Russia which was presented as perhaps the most basic underlying motivation.
2. Hate for the Germans, which was fanned by both German atrocities and Soviet propaganda.
3. Fear of being captured by the Germans, which was based not only in the fear of what the Germans would do to a prisoner of war, but also that he would be regarded as a traitor by Soviet officials if he was ever able to return to the USSR.
4. Fear of the punishment for failure to obey his orders or for retreating.

The preceding factors have become the primary reasons for Soviet soldier to fight swiftly and vigorously during World War II. Among these factors, German analysts attribute two of them as the most effective ones. The first is the love of motherland and second one is the fear of the

consequences of his failure. In the following quote written by German observers, the love of homeland theme is exemplified:

He is not an active communist, not a political zealot. But he is a conscious Russian...who fights only in rare cases for political ideals, but always for his fatherland. [Ref. 124]

Also:

The motive of fear may have been the final resort in difficult situations, but basically the Russian had no less national-as distinguished from political-patriotism than the soldiers of western armies, and with it comes the same source of strength. Unceasing propaganda has burned nationalism into his soul. And however impervious he may be to foreign propaganda, he nevertheless has been unable to escape the engulfing waves of his own. [Ref. 125]

As previously mentioned, the predictions about the future capability to motivate Soviet soldier and to have effective leadership for combat activity are beyond the deterministic and stochastic reasonings. The only prediction which can be done on this issue is the anticipated continuation of political indoctrination of military and civilian populations and its consecutive results related to the preparedness to the conventional and nuclear wars. Ever existing images of potential enemies created by doctrinal conflicts or national security concerns, will help sustain a national patriotic will to conduct and to support a possible war fought by the Soviet Union.

E. TECHNICAL PROFICIENCY AND ABILITY TO LEARN

In today's Soviet military, modern weapons and equipments necessitate having capable personnel who are able to use, maintain and repair such systems. The term "capable personnel" refer to those who have adequate training which is enough to handle modern weapons or equipments effectively under combat or non-combat situations. Besides training, this requires reaction capability, physical strength, and

most of all an intelligent and healthy brain, that is, mental ability.

The overall objective of the selection process either in military or civilian world is to match the man to the job. Various techniques are designed and implemented in order to predict the future performance of the selectee. With modern statistics, tremendous amount of different techniques are used to make inferences about the human performance issues. Any thinkable variable which might affect a person's performance is taken into account and different manipulations of person-related data are done simply for having a predictor-performance correlation. The most important predictors surely are mental state and mental ability.

By mental state is meant that the time-limited functional state of the human mind which predetermines its work capacity, readiness to overcome work loads, and its potential for rapid and accurate reaction and maximal degree of mobilization at the required moment. A mental state expresses the temporal characteristic of a person's mind and is manifested in an elevation of the spirits or depressions, a working condition, or sluggishness, etc. Mental ability in psychology is understood as a specific, stable quality of the human mind which engenders the possibility of successful activity of a specific nature. The essence of this quality is not so much in the current level of development of a given mental process, as in the possibility of its rapid development. [Ref. 126]

As new weaponry is introduced in Soviet armed forces, increasing importance is given to the selection and training of personnel. General Lieutenant Zav'yalov stated the following in his article "The New Weapon and Military Art":

New weaponry makes abnormally high demands on the moral political and psychological training of troops. Given all the extraordinarily expanding opportunities posed by weaponry and given the best military art, the outcome of a battle, operation or war is, is as a whole decided by people, who possess a high degree of military skill and

who are strong in spirit....No less important is the task of timely and qualitative mastery of new forms and methods of military operations by the troops themselves along with improvement in the approach to their work by commanders and staffs. Only thus, by joint efforts, is the genuine art of achieving victories created.
[Ref. 127]

Differentiation in conscript composition is mainly due to ethnic origin and to educational level. Since the educational level of the inductee is an outcome of the mental state, the assignments are based on mental state requirements of each service. (Similar to AFQT Scores of USA armed forces). In elite terms, the Strategic Rocket Forces, and National Air Defense Troops rank as first in terms of educational and mental requirements. Both require full pre-conscription training, good political training and non-ethnic element. Airborne unit personnel are chosen voluntarily from those with the DOSAAF training. Artillery and engineer units in ground forces require large number of technically qualified and well-trained personnel rather than those are brave but at lower mental categories. Consequently, one could expect a balance of town and country conscripts in these arms. Tank and motor rifle troops also require technically competent personnel. Navy and Air Forces, having second sophisticated weapon systems after the Strategic Rocket Forces, necessarily require technical as well as physical traits, due to the nature of the job. As previously explained in chapter I, the navy personnel hold the specialties more than other services'.

The emphasis placed on the quality of naval personnel can be seen at the following passage written by Admiral Sergei Gorshkov:

The potential contained in our equipment can be realized fully only with a high degree of special preparedness by the entire ship's company. It is impossible to be satisfied now by a mediocre level of training...Each navyman must have a detailed firm, knowledge...at the outstanding or good level...This means an absolute and even pedantic observance of all demands of instructors and manuals. [Ref. 128]

In regard of conscript training, two or three years of service period could be seen an ample time, but this is not reasonably enough to teach high-tech weapon systems and their essential maintenance. A Soviet commander must maintain his unit at the peak of combat readiness, trained and prepared to go at a moment's notice; yet at the same time he must run it as a training unit, with a constant and rapid turnover of conscripts, when all the time the volume and complexity of equipment is increasing, and an increasing amount of time must be devoted to physical training and political education. Under these conditions one should have fast learning ability as well as practicality to implement those who learned in training field.

Soviet self-criticism has various writings mention about a lack of specialist knowledge of equipment and complaint of insufficient time and training material to teach personnel. The following self-criticism is taken from the April 5, 1969, issue of Krasnaya Zvezda, Captain 2nd Rank-engineer Andrusenco says:

Experience shows that breakage and malfunction are not necessarily the consequences of clear-cut, gross violations of the rules for operating technology and ordnance. Even minor departures from the requirements of operating manuals or carelessness, in the discharge of duty responsibilities can become the cause of malfunctions... Statistics show that malfunctions are less often due to material defects than to lack of preparedness on the part of some specialist.

One another example of the self criticism on technical proficiency issue appears on the theory-practice relationship of the technical knowledge. The following is taken from the Journal of Rear Services and Supply (Tyl i Snabzhenia):

Graduates of military educational institutions possess the theoretical knowledge, but lack the practical experience and skills needed to effectively carry out their duties... Such training programs frequently are not based on an analysis of the needs or capabilities of young rear service officers. More effort is needed to identify the weaker officers so that individualized training can be given to them. [Ref. 129]

F. MILITARY ATMOSPHERE AND DISCIPLINE

Discipline is the "absolute observance of Soviet laws, military regulations, and the orders of command personnel". Discipline then, is obedience to externally imposed imperatives. No other sector of society requires such detailed legal regulation as the armed forces. For most military establishments, discipline in everyday matters is a training for the automatic obedience especially required in periods of great stress and danger. Individuality in behavior threatens the ability of members of a military team to respond without question to commands and to apply unhesitatingly learned routines. Individuality also complicates the administration of large numbers of men even in peacetime. [Ref. 130]

Soviet military art considers the discipline as an inevitable and most necessary factor which affects readiness. According to the materials which appeared in open press. The following quote explains the Soviet version of discipline-combat readiness relationship:

Standards of discipline are increasing as the importance of the time factor increases. Complete readiness to repel a surprise attack and successful action to destroy the enemy are only possible when there exists a high level of discipline and organization. [Ref. 131]

The keystone which shapes the discipline in Soviet military finds its essence in the following quote:

Military discipline is based on the awareness by each serviceman of his military duty and personal responsibility for the defense of his Motherland-the Union of Soviet Socialist Republics. [Ref. 132]

The superior-subordinate relations constitute one of the important foundations of discipline. Soviet doctrine dictates that in a superior-subordinate relationship, the superior is totally responsible for the actions of the subordinate [Ref. 133]. Because of this factor, the relationships are remote and tense. Any misconduct on this relationship might severe the superior's observed performance.

Soviet disciplinary problems are aggravated by the existence of two rival sources of authority, that of the commander and that of the political officer. It is the party that is most demanding with respect to discipline. Both recruits and officers who are not Party zealots ("we") have a common opponent, the Party ("they"), and have a collusive interest in protecting themselves against the severity of Party surveillance and treatment. [Ref. 134]

A third source of disciplinary difficulty is common to organizations and societies in which the deprivation of liberty or other punishments have relatively little effect on the general level of life of the persons punished. For recruits, military life is a severe and punishing round of duties, and neither the guardhouse nor the disciplinary work battalion may have quite the deterrent value that they have in a military establishment that provides for more indulgences.

The military uniform reflects the desire for uniformity and the restraint of individuality. Detailed regulations covering all phases of military existence also produce a degree of uniformity hardly equaled in civilian life. Today there is a tendency in western military forces, in response to disinclination of the young to subordinate themselves to military regimes and to military discipline, to permit greater latitude in behavior. It is not so confidently assumed that individuality necessarily produces a deterioration of combat capabilities. In any case, military leaders of western armies have found it expedient to permit the recruits forms of behavior and modes of dress that the modern military had not hitherto tolerated. In the Soviet military establishment, there is great reluctance to make concessions similar to those made by some western armies. [Ref. 135]

The reduction of the age of conscripts from 19 to 18 and the increasing level of education have apparently led to a reduction in the number of criminal offenses committed by soldiers. There is no indication that they have reduced recruit dispositions to ignore lesser regulations. If we leave aside drunkenness, hooliganism, and the exploitation of younger by older soldiers, the two categories of offenses that probably have the most serious consequences are (a) offenses against state (military) property and (b) falsification of training, disciplinary, and indoctrination records and the collusion required to effect this falsification. Property offenses are common to many military establishments, but falsification has origins and consequences special to the Soviet military because of the important role that socialist competition and the grading system play in the Soviet forces. [Ref. 136]

VI. PERFORMANCE APPRAISAL: READINESS

How would Soviet soldiers perform in a major war? Can the extreme specialization of Soviet military schools and intensive pre-induction training produce officers and enlisted personnel capable of operating satisfactorily on today's complex battlefield? Can 5 million men armed forces be effectively controlled by a relatively small group of highly qualified senior officers in the General Staff, if the remainder of the officer corps are primarily specialists? How soon a general mobilization would be achieved depending on a relatively obsolete railroad transportation? Is there any way that we can measure and evaluate the readiness of Soviet troops?

The answers to all these questions are going to be vague and very abstract without clearing up the main issues. As discussed in previous chapters, readiness is a synthesis of numerous variables. These variables rank according to their role in a given situation. For a well-trained and highly skilled armed forces quantity of weapons could be less significant than the quality of weapons. Similarly, calling up tens of thousands men to the services and giving no professional training would mean only a mass of human, not fighting men. Or, very intensive training without combat realization would create strong and swift uniformed personnel, but real fighting men. These considerations can go on indefinitely This is why the military art is called as an art. Creativity, surprise, unexpected chance, and many other variables play significant role in readiness issue.

Up to this chapter, the general formation of Soviet soldier with his or her indoctrination, education and training, has been examined. Still, many questions about the

quality of Soviet soldier are unanswered due to the wide area of human related activities and their results in Soviet people, like morale, initiative, ability to fight etc. Many written material about the Soviet soldier is based on the data which are obtained from dissidents or ex-Soviet allies, and Soviet publications. It is difficult to conclude whether or not they are doing well from these available data. The best way of evaluating the militaries surely is to observe them in combat situation with the analysis of their nation's support and will to continue this war. There are solid facts about the manpower issues of the Soviet military such as population trends, economic aspects of manpower issues, the young age composition of officer corps, semi-annual conscript turnovers with related management problems and so on. According to the history and the lessons which can be taken from the history, the Soviet people are vigorous and strong and never hesitate to defend their motherland. World War II is full of examples which identify these specifications of Soviet people. But, today's world circumstances are totally different compared to those of 1939-1945. At least, the generations who were born after the 1945 did not see any world war, but local conflicts and local wars. The reasons and forms of the wars and their public implications changed dramatically. The welfare and general life standards also changed and, most of all in last ten years, computers have caused major differences in every aspects of human activity. State-of-the-art weapon systems, conventional cruise missiles, high speed warplanes, nuclear powered warships with the capability of pinpoint targeting from over-the-horizon distances. These are limited number of examples without considering the thermo-nuclear weaponry.

Readiness cannot be measured. This could be the easiest answer to all previous questions. But readiness can be evaluated. Some constraints and easy to quantify variables

can be set. Related to the manpower issues, the mobilization potential, quality of reserve training, emphasis on civil defense can be some criteria for evaluating the readiness of manpower. The following sections will examine these issues and their impacts on the readiness of Soviet soldier.

A. RESERVE DUTY AND MOBILIZATION

When Hitler attacked the Soviet Union in June 1941, the Soviet leadership reportedly was able to mobilize 5.5 million men in eight days. When able-bodied men born between 1905 and 1918 (except those in central Asia and Far East) were ordered to active duty, that number swelled. With the current emphasis on reservists and mobilization procedures, the Kremlin should be able to react much more swiftly today. According to the Soviet law, inductees are placed in reserve status after active duty service and are assigned to categories depending on age. They remain subject to call-up for refresher training until they reach the age of fifty. The reserve categories and service requirements are shown in the Table VIII. [Ref. 137]

The Soviet military retains considerable control over the reservists who after completing the service, can not feel himself totally separated from the military atmosphere. For instance, the air reservists are subject to a maximum 19 months of additional training in their reserve life. Also, reservists can be summoned to attend "examination sessions" for a period lasting up to ten days. The training time can be imposed on reserve officers is even greater. Reserve officers under thirty-five years of age can be summoned every year for a period lasting up to three months each time, although the total amount of time spent in reserve sessions is not to exceed thirty months, that is, two and one-half years. However, "the USSR Minister of Defense has

TABLE VIII
RESERVE SERVICES FOR SOLDIERS AND SAILORS

Category -----	Service over one year -----	Service less than one year -----
First Cat. (to Age 35)	Reserve call-ups 4 times, 3 months each	Reserve call-ups 3 months each (After 12 months total service, transferred to 1st class. -----)
-----	-----	-----
Second Cat. (35 to 45)	Reserve call-up 1 to 2 times, 2 months each. -----	
-----	-----	
Third Cat. (45 to 50)	Reserve call-up 1 time, 1 month.	

the right to detain, if necessary, reserve officers, generals, and admirals at refresher training sessions for up to two months longer than the periods established by this law, and also to increase the number of refresher training sessions for reserve officers, without exceeding the total amount of time spent at sessions." [Ref. 138]

Reserve officers can be assigned during peacetime to full active duty for two to three years if they are under thirty years of age. Recalling reserve officers for two to three years of active duty is occurs often. Soviet discussions of training, discipline, and other problems of the officer corps make not infrequent references to the cases involving young reserve officers who resent their recall from civilian life. A reserve lieutenant called to duty wrote to Kresnaya Zvezda: "When battalion commander asked me to take over the company, I was quite surprised and naturally refused. I explained my refusal by pointing out that I

am not a cadre officer. There is much that I don't know. I cannot be responsible for combat equipment and materiel. And now I have been punished for no reason whatsoever." Krasnaya Zvezda comments: "In fact, it appears that the lieutenant was punished for questioning an order. The lieutenant is complaining that he, an officer called up from the reserve, is being compelled to serve on a par with cadre officers." [Ref. 139]

The main complaints of the young reserve officers is the interruption of their professional career in civil society. These officers constitute a major part of the technical officers corps and most of them are specialized and are needed in the armed forces. Although they are encouraged to stay in military as a cadre officer, their attitudes are negative to the military life and this is unfortunate for the military planners.

How rapidly and efficiently could the Soviet Union mobilize its manpower? A definitive answer to this question is impossible. Even if all facts about Soviet mobilization planning were known, which they are not, there still would be differences of interpretation. However, it is known that planning for mobilization is a direct responsibility of the General Staff and it receives major emphasis. The General Staff delegates its authority for mobilization to the military districts where military commissariats are primarily responsible for putting into effect measures pertaining to preparing for and conducting troop mobilization.

Soviet combat forces, other than Strategic Rocket Forces and Troops of National Air Defense, are deployed primarily in sixteen military districts. All troops of the Soviet Ground Forces, except those stationed abroad, are assigned to the commanders of the military districts. In addition all units of frontal aviation are under the control of the military district commanders as well. Thus military district

commanders have under their direct control both ground and air units capable of waging independent combat actions. The military district could operate as a military theater. If needed elsewhere, forces assigned to a military district move out to form a new front, or several fronts, leaving behind cadres to reestablish the military district forces through mobilization of additional men.

Soviet mobilization plans call for two different applications. One is unit replacements and the other is individual replacements. The following paragraph explains both applications.

Soviet strategists consider that entire divisions might be completely destroyed in the event of a nuclear war. If nuclear weapons are employed, contingency mobilization plans therefore call for divisions or regiments to be replaced as units, rather than for replacement of individual casualties. If there is a conventional phase in a future war, the number of troops would be increased immediately upon the outbreak of hostilities, with further mobilization providing additional manpower as losses were suffered. In this case individual replacements might be used. [Ref. 140]

In the book Soviet Military Strategy, Marshal Sokolovskiy defines the mobilization and related issues as follows:

As is known, by mobilization or mobilization deployment of the armed forces, we mean their conversion from a peacetime footing to a war footing in accordance with the war plan. In practice, mobilization either takes the form of supplementing existing military organizations with war-trained men and combat equipment until a war footing is reached or else new units and commands are formed. The cadres commanding the new formations are usually chosen from existing troop units. It is very difficult to foresee in peacetime the exact dimensions of the armed forces which may be needed to wage a war throughout the entire period of its duration, since at the very outset of the war mutual massive use of nuclear weapons may fundamentally alter the situation. Therefore, in accordance with the situation already prevailing during the period of mobilization carried out according to plans developed in peacetime, new formations may be created for the subsequent deployment of the armed forces. However a considerable part

of these formations can be realized administratively by taking into account existing personnel and material resources. [Ref. 141]

Mobilization plans for each service are different. Forces like strategic rocket forces, troops of national defense and some part of the air forces are in full equipped and manned condition during the peacetime. The air transportation units are to be supplied by Aeroflot (Soviet Airlines) airplanes when necessary. The navy would reactivate the mothballed ships, full supplying the ships would be a main requirement as would manning. Since the deployed warships maintain required combat personnel with adequate logistic support, they would not need an initial mobilization. Additionally, the navy would need to man mothball ships with experienced navy personnel some of whom might have to be removed from currently deployed ships.

Most of the mobilized personnel would go to the ground forces. The Soviet leadership should be able to mobilize 2 million to 3 million men in 24 hours. An equivalent number again could be called up within 48 hours period, approximately doubling the regular peacetime force of between 4.5 million and 5 million men. This should give a total of between 9 million and 11 million men in uniform within two full days. Since in peacetime the Soviet Union has at least 9 million in the reserves who had military service within a five-year period, the Soviet armed forces probably could reach 13 million to 14 million in less than ten days, if such numbers were needed. [Ref. 142]

Marshal Sokolovskiy divides the present day mobilization process into four categories as is explained in the following:

With respect to methods and ways of realization, present day mobilization of armed forces can be total or special, open or concealed. Total mobilization is declared by governmental decree and it is accomplished openly...Special mobilization in the past included simultaneously or consecutively only the territories of certain military districts in the immediate vicinity of

the probable theater of military operations...The concealed method was sometimes used for special mobilizations which consisted of mobilizing only certain units under the guise of different types of checks, training groups, maneuvers, etc...An important factor determining the degree of preparation of the armed forces is the system of recruitment in peacetime and during mobilization. The most suitable system is assumed to be a system of territorial recruitment of armies during mobilization, which under conditions of nuclear rocket war considerably accelerates the process of converting the armies to a wartime organization. As for a peacetime army, its main purpose -- the immediate repulsion of an aggressor and the preparation of trained manpower reserves for war -- can be fulfilled only by using cadre formations staffed on an extraterritorial basis.
[Ref. 143]

The Soviet armed forces are a synthesis of the overall Soviet population and reflect every aspects of soviet civilian society. Both are disciplined and ever controlled. People are indoctrinated as if there will be imminent attack to the Soviet Union by the West or the People's Republic of China. With this never ending indoctrination and a high share of GNP for defense, the Soviet Union is considered a nation in arms. Due to what Soviet system dictates politically, military issues are transformed to what CPSU perceives and wants. The people are prepared for war, starting at the early years of schooling.

B. CIVIL DEFENSE

The Soviet civil defense program adds important dimensions to the preparation of the Soviet population for the contingencies of war. The program is sufficiently well developed, its further growth ensured by official firmness and persistence, to give it substantial strategic significance. It embraces the entire population and not just the youth segment. Soviet authorities have had some difficulty in getting mass cooperation with the civil defense programs. The widespread conviction that nuclear war means virtually the end of the world, or at least is not subject to amelioration by civil defense efforts, has bred cynical attitudes

toward civil defense training and added to the resistance inevitable in a program that requires the sacrifice of individual free time or, in the case of enterprise director and his employees, of valuable production time. The authorities now insist that civil defense propaganda and instruction stress less the enormous damage that nuclear weapons can do and stress more the ability of civil defense to protect the population. [Ref. 144]

Marshal Sokolovskiy defines the primary tasks of civil defense as following:

The principal tasks of civil defense are to ensure the required conditions for normal activity of all governmental control agencies during the course of war and the effective functioning of the national economy. This is achieved by maximum defense of the population against the weapons of mass destruction, widespread and all-round aid to victims, and the rapid removal of the remains of an enemy nuclear attack. [Ref. 145]

Several new measures in recent years have further revealed the importance that Soviet leaders attach to civil defense. First, in 1971 Soviet civil defense training, which formerly began in the fifth grade of primary schools, was introduced in the second grade. The significance of this is considerably increased by the fact that this measure was undertaken despite widespread opposition by parents and teachers. Second, civil defense research became mandatory in technical and higher institutes of learning. Third, the population has increasingly been incorporated into civil defense formations, many of them specialized in various functions, such as reconnaissance, rescue work, erecting prefab and other emergency shelters, and predicting the movement of radioactive clouds. Fourth, beginning in 1974, an entire complex of changes took place in connection with the civil defense systems for control, communication, warning and technical equipping of units. Fifth, emphasis on practical field training and exercises has increased greatly. [Ref. 146]

Until 1961 civil defense in the Soviet Union was under the control of the Ministry of Internal Affairs and was known as MPVO, meaning "local air defense". In the summer of 1961 a number of changes took place in the Soviet defense structure. Civil defense was reorganized at the national level to become Civil Defense of the USSR and placed under the Ministry of Defense. The underlying concept of the new Soviet military doctrine adopted in 1960 was that "the armed forces, the country, and the whole Soviet people must be prepared for the eventuality of nuclear rocket war". The Moscow Military School for Civil Defense opened in 1967. One of its three-year courses prepares officers for the mechanized units of civil defense; another prepares commanders of subunits for anti-radiation and anti-chemical protection; a third course prepares officers as radio technicians. [Ref. 147]

Military personnel assigned to civil defense are in two separate categories. In the first category are those in supervisory and administrative positions associated with the "civilian" side of civil defense. These positions include a chief of staff for civil defense, usually a general major, in each of the fifteen republics of the Soviet Union; a chief of staff in the grade of colonel or lieutenant colonel in each autonomous republic, autonomous oblast (district), or city over 100,000 in population; a civil defense military chief in the 3,097 regions not part of cities and in 1,900 cities with populations of less than 100,000. Approximately 50,000 military personnel are assigned to civil defense duties in this category of civil defense.

In the second category are deputy commanders for civil defense within the headquarters of each of the sixteen military districts of the Soviet Union, with their assigned Troops for Civil Defense. The primary task of this portion of civil defense is REscue and Urgent Disaster and

Restoration Work (SNAVR). This includes locating and marking areas of contamination; localizing and extinguished fires; giving first aid to and evacuating the injured; removing the people from disaster areas; disinfecting people and decontaminating clothing, transport, equipment, and so on. Such work is carried on by both troop and non-military units. Fragmentary evidence of troop organization leads to the conclusion that there probably are as many as 50,000 troops assigned to civil defense in military units. This force, combined with a military force of approximately 50,000 assigned to civil defense duties outside the formal military establishments, suggests that at least 100,000 military personnel are engaged in civil defense duties of some type. [Ref. 148]

VII. CONCLUSION

There is no single measure of a nation's military capability. While the number of men under arms and mobilization capability are major factors in evaluating military power, these too can be offset by other less tangible considerations. Among these are the quality of military leadership, the professional competence of the officer corps, and the technical skill of the troops. Other equally significant factors are the national technical and scientific capability, industrial production potential, the government's effectiveness and stability and, finally, that great imponderable, the national will. [Ref. 149]

Up to this chapter, many different areas of Soviet military manpower have been examined. It was seen that Soviet armed forces personnel face some problems which can affect their performance in combat or in national emergency. On the other hand intensive indoctrination of the overall population and an over-centralized decision making process for defense issues facilitate the preparation of the nation for a future war. There is no doubt that Soviet armed forces drawn from the Soviet people would fight to defend "Mother Russia" as did its forebears, but in a future war, morale, ethnic conflicts, strong pressure, and the other constraints might help to offset the growing disadvantage in numbers of weapons platforms that West faces. The following paragraphs explain the conclusions about manpower issues of the Soviet military.

A. COMMAND STRUCTURE AND CONTROL

The Soviet system of command and control reflects extreme centralization, with unquestioned control by the top Party-military structure. But, centralized command structure could fail within several hours after a nuclear attack happens. Hence, Soviet military literature insists on increasing the initiative capability of their officer corps. Nevertheless, close control over combat troops and their commanders is still exercised by top leaders of Soviet military structure. Most of the Soviet leaders, either in the Party or military, have been at the top levels of administration for more than a decade. Many fought in World War II and experienced major world crises. Also, they survived different power struggles within the Soviet Union and dealt with many complex international issues.

In the event of an international crisis that might lead to military action, the Soviet leadership would be composed of these men with a lot of experience in their position. Minister of Foreign Affairs Andrei Gromyko and Commander-in-Chief of Naval Forces Sergei Gorshkov are typical examples of long term position holding in civil and military administrations of Soviet Union.

The military district structure is advantageous for mobilization and induction. Transforming to a military theater in case of a war, this structure provides rapid mobilization of the civilian population and fast reinforcements to the troops already deployed. As a spinoff, this system does provide a capability for internal controls that would be of great significance in the event of a nuclear attack.

B. ETHNIC COMPOSITION AND RELATED PROBLEMS

One of the most significant aspects of Soviet forces vulnerability is attributed to the ethnic and political fragmentation. Both official and popular Western images of the Soviet Union fail to recognize the multinational character of the Soviet state. Ethnic Russian domination of the Communist Party contributes to the widely held perception that "Russia" and the "Soviet Union" are synonymous [Ref. 150].

At the present time, all nationalities are assigned to ethnically integrated units. Personnel tend to be stationed in parts of the country with which they have no ethnic or religious identification. The Soviets seem to be making every effort to russify their nationalities, and military service plays an important role in this process.

Under Marxist-Leninism the solidarity of the working class and economic prosperity were to have disposed of narrower national and ethnic loyalties. But the ideologic melting pot has failed to integrate the non-Russian peoples except for the Belorussians, who are closely akin. The apprehension that Russians feel toward other nationalities is reflected in the Communist Party structure, state bureaucracies, the armed forces, and the secret police. Each is dominated by ethnic Russians including the large Soviet Army where non-Russians are trusted in large numbers only in construction or supporting units, and, even then, must serve outside their native territories. Maintaining the empire poses serious problems for Soviet foreign policy over the long term. Challenges in Eastern Europe could eventually spill over into neighboring Soviet republics. The Islamic revolution in Iran could affect the loyalties of 40 million Soviet Islamic citizens in Central Asia. If set in motion by a major crisis, the pressures of nationalism could set all

of the Soviets' ethnic dominoes falling out of control. [Ref. 151]

The conclusion to be drawn from historical account of Russian and Soviet policies and practices in using nationalities in military is that when Slavs dominated the population, leaders employed minority soldiers to defend the country. In times of crisis, successive governments have repeatedly created national units as a vehicle for mobilizing more minorities in the war effort. Minority manpower, in both national and regular units, appears to have been helpful in certain vital instances, but overall minority soldiers have been of questionable effectiveness, notably unreliable, and sometimes completely disloyal. [Ref. 152]

Today's Soviet military management confronts various problems which are caused by the ethnic composition of the military manpower. There is an explicit discrimination against minorities in their service selections and assignments. This may cause unrest of minority groups as a result of deliberate discrimination.

The ethnic related problems which face the Soviet military are the language problem, ethnic-related alcohol and drug abuse, religious issues affecting morale and solidarity, and nationality feelings and their effects on combat readiness of troops.

The Russian language is the official language of the armed forces. Intensive efforts have been made to improve the number of Russian speaking people among the non-Russians. Since most of the minorities go to Rear Services such as construction units, they tend to speak their own languages among each others. Although this is not forbidden, Soviet officers do not want to see minority personnel speaking in their ethnic languages. The main reason to instruct all nationalities in the Russian language is to facilitate their ability to function in a Russian

dominated society and to speed their acceptance of Russian culture. This is also known as the Russification.

Excessive consumption of liquor and other alcohol-based substances in Soviet Army is primarily by Slavs. Balts are reported to consume considerably less than the Slavs, and the Muslim or Turkic peoples use no alcohol substances at all. Alcoholic abuse among Slavs in the military can be described as epidemic and its implications for military efficiency are far reaching. [Ref. 153]

Narcotic abuse in the Soviet armed forces is distinctly ethnic. Units with concentrations of Central Asians and Muslim Caucasians are characterized by wide-spread use of different kinds of narcotics indigenous to these areas. [Ref. 154]

Religious feelings among servicemen of different nationalities are for the most part sublimated for fear of punishment and abuse. Among ethnic Russians, religious expression is said to be weakest, probably because there are proportionately fewer real believers among them and because open or semi-open expression of belief is easy to detect. For Muslims and Baptists, the situation is considerably more serious, and in both cases religious practice is closely bound up with national consciousness and customs.

Ethnic groups assigned to construction units also work in farms, and they produce meat and agricultural products for army mess halls. The use of troops in these areas may be advantageous from the standpoint of the economy's productivity, but should be taken into account in assessing the military output of Soviet forces.

This issue could be serious when it comes to backing up the Slav dominated troops in case of reinforcement. Turkic-Muslim males will account for 28.7 percent of the Soviet draft-age population in 1995, e.g. In contrast, the percentage of ethnic Russians in the military is on the

decline. Soviet discriminatory practices raise the specter that Soviet forces could suffer "severe 'second Battle' weaknesses from having to replace early casualties to Russian and Slavic forces with undertrained non-Slavic soldiers" in an extended conflict [Ref. 155].

Internal political problems combined with current Soviet economic problems will make it considerably more difficult and possibly less attractive for Soviet leaders to project their power abroad. These religious and nationalistic practices with fragile political base pose a real inside threat for the Soviet military and all these factors could eventually impair the combat capability and readiness of Soviet troops.

C. MOBILIZATION AND RESERVES EFFECTIVENESS

The Soviet military services discharge almost two million men into the reserves each year, giving that nation a capability to mobilize millions of men with recent military service in only a few days. The Soviet system of reserve training helps ensure that many of those mobilized in an emergency would be prepared immediately to perform combat duties [Ref. 156]. The two year conscription period might be inefficient in terms of training and specializing on equipment, but the inductee has already had fundamental military training and background long before he is inducted. Moreover, Soviet weapons are relatively easier to use and maintain compared to those of West. All these factors increase the mobilization effectiveness.

D. TRAINING AND INDOCTRINATION

The Soviets get some worthwhile results from their high-pressure training system, but it would be a great error to overlook the flaws in, and limitations of, a military system

embedded in a society that not only fails to produce certain important skills and habits, but creates others that are seriously detrimental to military objectives. The heavy investment in political indoctrination has negative effects on attainable skill levels both by detracting from the time available for skill training and by establishing political priorities that reduce the skill return for the time that is devoted to it. Negative repercussions on morale and concealed (and often open) evasion and resistance, with their demoralizing effects, limit results achieved and impose costs to effectiveness that are not easy to assess but are clearly substantial. [Ref. 157]

As the Soviet literature indicates, DOSAAF, technical schools, and higher military schools are faced with inadequate equipment which lags behind the current weaponry of Soviet military, inferior teaching techniques, and antiquated teaching processes.

A variety of acknowledged operational difficulties and frequent and severe criticism of the results of the training and indoctrination raise doubts concerning the success of Soviet efforts in the military training and operational fields. The need to bend training and operational routines to the exigencies of socialist competition leads to wholesale falsification of results in the military units and in the cadet academies and reduces the value to commanders of the otherwise valuable Soviet emphasis on constant testing of military performance. Getting good marks is more important than having a good unit. Good marks and operational effectiveness are far from being highly correlated. [Ref. 158]

Indoctrination of personnel who hold strategically important positions such as strategic air force pilots, personnel of nuclear missile silos and nuclear submarines, poses some difficulties in terms of decision making process

and pushing the buttons. Due to the nature of their jobs, they do not see the real enemy in being and they are entrusted with weapons having tremendous destructive power. Since they cannot feel the combat situation's stress, it is necessary to have a great force of will that cause them to act. Inculcating this requires intensive and continuous indoctrination.

Another problem that the Soviet military faces is that most Soviet officers and NCOs did not serve in a real combat situations, other than Afghanistan if we consider the Afghan case as a real combat struggle. Soviet training and emphasis on combat realism doubtfully could compensate for combat inexperience.

The training and education practices of the Soviet armed forces have potentially strong areas as well as weak areas. As it is written, the 1968 Law for Universal Military Service provides a very sound foundation on which to build a strong armed forces. It provides for a steady supply of manpower through conscription and trained reserve personnel. Likewise, it is all encompassing and embraces the vast spectrum of military life for all men from the preinduction through active duty, discharge into the reserves, reserve training and retirement. The life-long military indoctrination of all Soviet people provides another source of trained manpower. By the time an individual is inducted into the armed forces, he will have spent several hundred hours in military-patriotic training. Although this training has not been of the quality demanded by the armed services, it has the potential of developing into an extremely worthwhile and effective training program. The vast and expansive officer education system is another area which has tremendous potential. It begins indoctrinating an individual for military life at the age of fifteen and continues throughout his naval career. And this provides very strong love of country,

professionalism, and career opportunities to the young officers.

E. SELECTION AND PROMOTION

The effect of political criteria in the selection and promotion of officers and non-commissioned cadres must inevitably decrease the military effectiveness of units. There is no reason to suppose that a high relationship exists between military talents and a willingness and ability to exhibit the behavior and attitudes agreeable to Party officials and KGB informers although some correlation probably exists since a good mind can serve both military and career objectives.

F. OFFICER CORPS

In general terms, a Soviet officer is a specialist rather than a generalist. He is taught on a theoretical basis in military schools with little practicality. After commissioning as an officer, more time is spent on practical applications of what was taught before. It can be said that first couple years become a secondary training period for commissioned officers and that can cause deficiencies in emergency cases.

Soviet spokesmen continually express the need for officers to develop initiative while at the same time initiative is discouraged and penalized by the system.

In a carefully preplanned attack against an opponent, some officers probably would perform satisfactorily. They also could be expected to fight effectively and with all possible means against any force invading Soviet territory. But outside the Soviet Union, in a fluid situation with communications to higher headquarters disrupted, most Soviet officers probably would be at a loss.

In contemporary military establishments reliability, and consequently military effectiveness, depend to a considerable extent on the dedication and skill of a group of highly trained relatively young officer-engineers or officer-technicians. In the Soviet Union, a non-trivial, although not specifiable proportion, of such personnel are reserve officers, many of whom resent their call to service, do not view themselves as professional military men, and are looking forward to their return to civilian life. Soviet military writers have shown a particular sensitivity to Western references to problems arising from the sense of separation of the officer-technician from both commanders and the political officers. [Ref. 159]

G. COMBAT READINESS

Although the Soviet military administration emphasizes combat readiness, the Soviet training system cannot entirely overcome periodic variations in operational effectiveness caused by the reception of new recruits twice a year and the reception of new junior officers from the cadet academies that makes the autumn period especially difficult. All military establishments with large numbers of draftees face similar problems. They are magnified somewhat in the Soviet Union by the twice yearly disruption of operational routines, and by the early incorporation of the inductees into operational units rather than into training regiments.

Combat readiness is particularly demanded in the strategic rocket forces and in the PVO and one is naturally led to ask to what extent the operational efficiency of these important services is affected by the Soviet induction and training process. One way of reducing the negative impact on operations caused by the periodic reception of draftees would be to employ a large proportion of cadre in the rocket

forces, in the PVO, in the nuclear submarine fleet. The high proportion of first and second class specialists in these services suggest a smaller number of recruits.

H. MAN MACHINE MIX

The demands for increasing the speed of the offensive and combat readiness and mastering the most modern technology are leaving far less time to train soldiers and to carry out tasks in war. Soviet military doctrine requires that the main aims of a war be achieved in its initial period without reliance on additional mobilization. There is, therefore, an increasing volume of equipment on the battlefield as equipment norms are raised and attained to effect the required correlation of forces of main axes of advance. This means that there can be no manpower slack to absorb casualties in the event of war, as a standing army will have to fight with, more or less only the men and equipment it has in peacetime. Consequently, there can be no immediate replacement for the technical specialist who is a casualty. The other members of his team must cover for him. But with present, highly technical equipment, this is extremely difficult because it means that men must acquire more than one complex specialty.

Due to both the power of modern weapons and the dynamism of modern wars, the consequences of an individual's failure can be very great--a radar operator's lack of vigilance can lead to the enemy achieving a disastrous surprise air attack. A short war involves a lack of times to gain combat experience. [Ref. 160]

I. FINAL CONCLUSIONS

The Soviet armed forces play a significant role in overall world politics. As a super power's armed forces they

have tremendous military capabilities for strategic offense, for deploying forces overseas, conducting short and swift operations abroad, supporting and intervening Eastern bloc countries, supplying arms and materiel to its allies all over the world, strategic defense of the homeland, and taking sides militarily in any kind of conflict. This thesis has focused on the human dimensions of Soviet military, but what has been written here can only approximate reality and provide glimpses as to how the Soviet military might perform in warfare. Only actual combat can provide the true test of the Soviet soldiers' performance.

After dealing with the various aspects of Soviet military manpower, we can summarize all issues which might be perceived as potential shortcomings:

1. Problems related with military manpower supply and composition of demographic structure seems to affect ethnic structure of the current force levels in the long run.
2. Ethnic related military management problems create constraints on morale and psychology of the Soviet soldier.
3. Language deficiency among the members of Soviet military pose communication problems which might impair the effectiveness of military organization and readiness.
4. Although the command structure has advantageous aspects, over centralization and implicit restrictions on initiative of the officer corps could impair combat effectiveness under surprise and emergency.
5. The increasing use of alcohol among military personnel can be attributed to easy solution to short and long term personal problems which might be the outcomes of general morale conditions in armed forces.

6. Religious suppression of ethnic groups might cause unpredictable social unrest and its reflections in the armed forces might end with severe results.
7. Internal conflicts in some Warsaw Pact countries might trigger social unrest in Soviet Union. This unrest can probably be exacerbated by a relatively fragile economy and the people who are in the search of closing the welfare gap between Western countries and themselves.
8. The insufficient number of combat experienced personnel can cause major operational problems in the early periods of a future war.
9. The choice between quantity versus quality in training and education still poses major problems especially for the positions which require highly skilled personnel who have to have theoretical as well as practical knowledge.
10. Feelings of reserve officers toward the military have negative effects on improving their expected use in active military.
11. Emphasizing political indoctrination at the expense of combat training may cause frustration to highly professional military personnel.
12. Overemphasis on political reliability and party activity for selection and promotion may cause unfair and ineffective placements of incompetent personnel in positions requiring traits rather than political reliability.
13. As long as the Soviet officer keeps his position as a specialist, it might affect his leadership and management skills.

All nations in the world are in the search of excellence, combat readiness, deterrence and self confidence in the levels of both military community and civilian

community. As long as war exists, nations will spend much financial sources on armament and preparation of personnel who use them. There are always opportunity costs and sacrifice in the issues which relate to the weapons-man mix. One might sacrifice the quality of personnel for the acquisition of a modern combat plane or the other might sacrifice modern and expensive arms at the expense of personnel costs. These are paradoxical and interacting decision making choices.

The Soviets seem to favor both. They emphasize personnel as well as weapon systems. As explained in this thesis, objective evaluation of Soviet military manpower with the available Western and Soviet material cannot satisfy the ability to conclude whether or not the Soviet military has rightly answered this choice problem or whether they implement the right or wrong strategy on preparation of their military personnel. But the Soviets do understand the importance of the human factor in military issues. They are students of history, and as long as they are determined enough not to forget past, they will emphasize on human factor in order not to repeat past mistakes.

This thesis ends with the same citation with which it began in order to emphasize that whatever level the technology, military art and military strategy can reach, the final determinant will belong to the human factor.

"...of themselves, weapons and military equipment do not determine the success of combat operations. What is important is in whose hands they are. We know that man was and remains the decisive force in war. Neither a missile, nor a plane, nor a tank....nothing is so formidable for the enemy as a soldier who has high combat morale and military expertise, who is capable of skillfully employing weapons and equipment and using their combat properties to the full extent to defeat the enemy and win the victory." [Ref. 161]

A.A.Grechko

LIST OF REFERENCES

1. Grechko, A.A., The Armed Forces of the Soviet State, Translated under the auspices of the U.S. Air Force as vol.12 of the Soviet Military Thought Series, U.S.Government Printing office, 1975, p. 221.
2. Erickson, John and Feuchtwanger, E.J., Soviet Military Power and Performance, Archon Books-The shoe strings press, Hamden-Connecticut 1979, p. xi.
3. Savkin, V. Ye, The Basic Principles of Operational Art and Tactics (A soviet view), Translated and published under the auspices of the U.S.Air Force. U.S. Government Printing Office, 1972, p. 258.
4. Navy Personnel Research and Development Center Resources and Readiness: A Research and Development Plan 1982, p. 6.
5. Goldich, Robert L., Method and Mystique in Military Manpower Analysis, Final Report of the Seminar on Soviet Military Manpower: A focus on the Soviet Military District. (Held at the University of Edinburgh, Scotland,U.K. 5-7 April 1978), pp. 3-5.
6. Scott, Harriet Fast and Scott, William Fast, The Armed Forces of the Soviet Union. Westview press Inc. Colorado, 1981, p. 131
7. Suvarov, Viktor, Inside the Soviet Army, Mac Millian Publishing Co. Inc. New York, 1982, p. 55.
8. Scherer, John, U.S.S.R. Facts and Figures Annual, Volume 81984, Academic International Press, Florida 1984, p. 70.
9. Ibid., p. 72.
10. Goldhamer, Herbert, The Soviet Soldier, Crane Russak Co. Inc. New York, 1975, p. 95.
11. Suvarov, Viktor, Inside the Soviet Army, Mac Millian Publishing Co. Inc. New York, 1982, p. 68.
12. Scherer, John, U.S.S.R. Facts and Figures Annual, Volume 81984, Academic International Press, Florida 1984, p. 70.

13. Goldhamer, Herbert, The Soviet Soldier, Crane Russak Co. Inc. New York, 1975, p. 96.
14. Suvarov, Viktor, Inside the Soviet Army, Mac Millian Publishing Co. Inc. New York, 1982, p. 61.
15. Scherer, John, U.S.S.R Facts and Figures Annual, Volume 81984, Academic International Press, Florida 1984, p. 71.
16. Suvarov, Viktor, Inside the Soviet Army, Mac Millian Publishing Co. Inc. New York, 1982, pp. 79-80.
17. Goldhamer, Herbert, The Soviet Soldier, Crane Russak Co. Inc. New York, 1975, p. 96.
18. Suvarov, Viktor, Inside the Soviet Army, Mac Millian Publishing Co. Inc. New York, 1982, p. 84.
19. Scherer, John, U.S.S.R Facts and Figures Annual, Volume 81984, Academic International Press, Florida 1984, p. 69.
20. Wimbush, Enders S. and Alexiev, Alex, The Ethnic Factor in the Soviet Armed Forces, Rand Corporation, Santa Monica, Ca., March 1982, p. 1.
21. Brunner Edmund, Jr. Soviet Demographic Trends and the Ethnic Composition of Draft Age Males Rand Corporation, Santa Monica, Ca., February 1981, pp. 1-2.
22. Hasson, Neil, Demographics, Economics, and the Soviet Armed Forces: The implications for U.S. National Security Policy, M.A. Thesis, Naval Postgraduate School, Monterey, California, 1981, p. 57.
23. Brunner, Edmund, Jr., Soviet Demographic Trends and the Ethnic Composition of Draft Age Males Rand Corporation, Santa Monica, Ca., February 1981, pp. 60-63.
24. Hasson, Neil, Demographics, Economics, and the Soviet Armed Forces: The implications for U.S. National Security Policy, M.A. Thesis, Naval Postgraduate School, Monterey, California, 1981, p. 21.
25. Azrael, Jeremy, Emergent Nationality Problems in the USSR Rand Corporation, Santa Monica, Ca., September 1977, p. V.
26. Hasson, Neil, Demographics, Economics, and the Soviet Armed Forces: The implications for U.S. National Security Policy, M.A. Thesis, Naval Postgraduate School, Monterey, California, 1981, p. 12.

27. Ibid., pp. 12-14.
28. Brunner, Edmund, Jr., Soviet Demographic Trends and the Ethnic Composition of Draft Age Males Rand Corporation, Santa Monica, Ca., February 1981, pp. 5-6.
29. Ibid., pp. V-VI.
30. Fesbach, Murray, Soviet Population and Military Manpower, Final Report of the Seminar on Soviet Military Manpower: A focus on the Soviet Military District. (Held at the University of Edinburgh, Scotland, U.K. 5-7 April 1978), p. E-11.
31. Ibid., p. E-14.
32. Wimbush, Enders S. and Alexiev, Alex, The Ethnic Factor in the Soviet Armed Forces, Rand Corporation, Santa Monica, Ca., March 1982, p. v.
33. Ibid., pp. V-VI.
34. Goldhamer, Herbert, The Soviet Soldier, Soviet Military Management at the troop level, Leo Cooper Limited, London 1975, pp. 331-332.
35. Curran, L. Susan and Ponomareff, Dmitry, Managing the Ethnic Factor in the Russian and Soviet Armed Forces, Rand Corporation, Santa Monica, Ca. July 1982, p. V.
36. Ibid., pp. VI-VII.
37. Wimbush, Enders S. and Alexiev, Alex, The Ethnic Factor in the Soviet Armed Forces, Rand Corporation, Santa Monica, Ca., March 1982, p. 48-49.
38. Scherer, John, U.S.S.R. Facts and Figures Annual, Volume 8 1984, Academic International Press, Florida 1984, p. 70
39. Scott, F. Harriet and Scott, F. William, The Armed Forces of the USSR, Westview Press Boulder, Colorado, 1982, p. 303.
40. Goldhamer, Herbert, The Soviet Soldier, Crane Russak Co. Inc. New York, 1975, pp. 4-6.
41. Scott, F. Harriet and Scott, F. William, The Armed Forces of the USSR, Westview Press Boulder, Colorado, 1982, p. 303.

42. Ibid. pp. 305-306.
43. Goldhamer, Herbert, The Soviet Soldier, Crane Russak Co. Inc. New York, 1975, pp. 20-21.
44. Scott, F. Harriet and Scott, F. William, The Armed Forces of the USSR, Westview Press Boulder, Colorado, 1982, pp. 306-307.
45. Goldhamer, Herbert, The Soviet Soldier, Crane Russak Co. Inc. New York, 1975, pp. 39-40.
46. Scott, F. Harriet and Scott, F. William, The Armed Forces of the USSR, Westview Press Boulder, Colorado, 1982, p. 309.
47. Goldhamer, Herbert, The Soviet Soldier, Crane Russak Co. Inc. New York, 1975, pp. 42-43.
48. Kozlov, S.N., The Officer's Handbook- A Soviet View. (Published under the auspices of the United States Air Force and translated by the DGIS Multilingual Section-Translation Bureau, Secretary of State Department, Ottawa Canada), Government Printing Office - Washington 1971, p. XI.
49. Ibid., pp. 15-16.
50. Goldhamer, Herbert, Soviet Military Management at the Troop Level, A Report prepared for United States Air Force Project Rand, Rand Corporation, Santa Monica, Ca. May 1974, p. 3.
51. Ibid., p. 4.
52. Goldhamer, Herbert, The Soviet Soldier, Crane Russak Co. Inc. New York, 1975, p. 12.
53. Radushkevich, R., "The Selection of Specialists in the Navy--On a scientific Basis," Morskoy Sbornik, no. 8 of 1970, NIC 3172, p. 21, 5 Feb. 1971.
54. Ibid., p. 69.
55. Scott, F. Harriet and Scott, F. William, The Armed Forces of the USSR, Westview Press Boulder, Colorado, 1982, p. 318.
56. Darnstaedt, J., Gloria, Training and Education of Soviet Naval Personnel and the Impact on Readiness M.A. Thesis, Naval Postgraduate School, Monterey, California, 1967, p. 20.

57. Goldhamer, Herbert, The Soviet Soldier, Crane Russak Co. Inc. New York, 1975, p. 24.
58. Rand Corporation, Soviet Military Management at the Troop Level, by Goldhamer, Herbert, p. 6., May 1974.
59. Goldhamer, Herbert, The Soviet Soldier, Crane Russak Co. Inc. New York, 1975, p. 25.
60. Erickson, John, The Army, the Party, and the People, The Soviet Union in Europe, and the Near East: Her Capabilities and Intentions, Royal United Services Institute for Defense Studies, London, 1970, p. 37.
61. Goldhamer, Herbert, The Soviet Soldier, Crane Russak Co. Inc. New York, 1975, p. 25.
62. Scherer, John, U.S.S.R. Facts and Figures Annual, Volume 31984, Academic International Press, Florida 1984, p. 95.
63. Goldhamer, Herbert, The Soviet Soldier, Crane Russak Co. Inc. New York, 1975, p. 11.
64. Scott, F. Harriet and Scott, F. William, The Armed Forces of the USSR, Westview Press Boulder, Colorado, 1982, p. 311.
65. Norbori, H., The Educational System of the Soviet Military Microfiche NR: FID-82-C-001525, Foreign Technology Division, Wright Patterson AFB, Ohio, November 1982, p. 2.
66. Kozlov, S.N., The Officer's Handbook- A Soviet View. (Published under the auspices of the United States Air Force and translated by the DGIS Multilingual Section-Translation Bureau Secretary of State Department, Ottawa Canada), Government Printing Office -Washington 1971, pp. 88-89.
67. Scott, F. Harriet and Scott, F. William, The Armed Forces of the USSR, Westview Press Boulder, Colorado, 1982, p. 312.
68. Darnstaedt, J., Gloria, Training and Education of Soviet Naval Personnel and the Impact on Readiness M.A. Thesis, Naval Postgraduate School, Monterey, California, 1976, pp. 23-24
69. Ibid., p. 25.
70. Scott, F. Harriet and Scott, F. William, The Armed Forces of the USSR, Westview Press Boulder, Colorado, 1982, p. 313.

71. Ibid., p. 314.
72. Darnstaedt, J., Gloria, Training and Education of Soviet Naval Personnel and the Impact on Readiness M.A. Thesis, Naval Postgraduate School, Monterey, California, 1976, p. 25.
73. Ibid., p.29.
74. Scott, F.Harriet and Scott, F.William, The Armed Forces of the USSR, Westview Press Boulder, Colorado, 1982, pp. 318-319.
75. Foley, David and Stone, Frank, Soviet Ground Forces Training Program, Defense Intelligence Agency, Washington July 1978, p. 4.
76. Rand Corporation, Soviet Military Management at the Troop Level, by Goldhamer, Herbert, p. 27, May 1974.
77. Kozlov, S.N., The Officer's Handbook- A Soviet View. (Published under the auspices of the United States Air Force and translated by the DGIS Multilingual Section-Translation Bureau Secretary of State Department, Ottawa Canada), Government Printing Office -Washington 1971, pp. 96-97.
78. Skirido, Mitrofan, The People, the Army, the Commander. (Published under the auspices of the United States Air Force and translated by the DGIS Multilingual Section-Translation Bureau Secretary of State Department, Ottawa Canada), Government Printing Office -Washington 1970, pp. 134-135.
79. Grechko, A.A., The Armed Forces of the Soviet State, translated under the auspices of the U.S. Air Force as vol.12 of the Soviet Military Thought Series (U.S. Government Printing Office), p. 221.
80. Goldhamer, Herbert, The Soviet Soldier, Crane Russak Co. Inc. New York, 1975, pp. 15,17.
81. Ibid., pp. 17-18.
82. Norbori, H., The Educational System of the Soviet Military Microfiche NF-FID-82-C-001525, Foreign Technology Division, Wright Patterson AFB, Ohio, November 1982, pp. 4-5.
83. Ibid., pp. 5-6.
84. Ibid., pp. 8-9.

85. Scott, F. Harriet and Scott, F. William, The Armed Forces of the USSR, Westview Press Boulder, Colorado, 1982, pp. 331-332.
86. Ibid., p. 335.
87. Norbori, H., The Educational System of the Soviet Military, Microfiche Nr: FTD-82-C-001525, Foreign Technology Division, Wright Patterson AFB, Ohio, November 1982, p. 10.
88. Ibid., p. 11.
89. Scott, F. Harriet and Scott, F. William, The Armed Forces of the USSR, Westview Press Boulder, Colorado, 1982, pp. 336-337.
90. Norbori, H., The Educational System of the Soviet Military, Microfiche Nr: FTD-82-C-001525, Foreign Technology Division, Wright Patterson AFB, Ohio, November 1982, pp. 13-25.
91. Scott, F. Harriet and Scott, F. William, The Armed Forces of the USSR, Westview Press Boulder, Colorado, 1982, pp. 351-352.
92. Norbori, H., The Educational System of the Soviet Military, Microfiche Nr: FTD-82-C-001525, Foreign Technology Division, Wright Patterson AFB, Ohio, November 1982, pp. 26-28.
93. Defense Intelligence Agency, Report No: DDI-1300-98-77, The Life of a Soviet Pilot, by Cunningham, Micheal, p. 6, 1977.
94. Goldhamer, Herbert, The Soviet Soldier, Crane Russak Co. Inc. New York, 1975, pp. 205-206.
95. Berman, Harold and Kerner, Miroslav, Soviet Military Law and Administration, Harvard University Press, Cambridge 1955, p. 18.
96. Goldhamer, Herbert, The Soviet Soldier, Crane Russak Co. Inc. New York, 1975, p. 267.
97. Ibid., p. 287.
98. Scott, F. Harriet and Scott, F. William, The Armed Forces of the USSR, Westview Press Boulder, Colorado, 1982, p. 274.
99. Rand Corporation, Soviet Military Management at the Troop Level, by Goldhamer, Herbert, p. 55, May 1974.

100. Lomov, N.A., The Revolution in Military Affairs, -A Soviet View, (translated and published under the auspices of the U.S. Air Force), U.S. Government Printing Office, 1973, pp. 188-189.
101. Kozlov, S.N., The Officer's Handbook- A Soviet View. Published under the auspices of the United States Air Force and (translated by the DGIS Multilingual Section-Translation Bureau Secretary of State Department, Ottawa Canada), Government Printing Office Washington 1971, pp. 6-7.
102. Soviet Military Review, no.4, 1965, p. 54.
103. Goldhamer, Herbert, The Soviet Soldier, Crane Russak Co. Inc. New York, 1975, pp. 224-226.
104. Erickson, John and Feuchtwanger, E.J., Soviet Military Power and Performance, Archon Books-The shoe strings press, Hamden-Connecticut 1979, p. 129.
105. Ibid., p. 136.
106. Goldhamer, Herbert, The Soviet Soldier, Crane Russak Co. Inc. New York, 1975, p. 225.
107. Clausewitz, Carl, Von, On War, London: Kegan, Paul, Trench, Trubner, Co. Ltd. 1918, p. 177.
108. Rand Corporation, Soviet Military Management at the Troop Level, by Goldhamer, Herbert, p. 35, May 1974.
109. War and Army -A Soviet view, (translated and published under the auspices of U.S. Air Force), Government Printing Office, 1972, p. 90.
110. Savkin, V.Ye., The Basic Principles of Operational Art and Tactics (A soviet view), translated and published under the auspices of the U.S. Air Force. U.S. Government Printing Office, 1972, p. 92.
111. Scott, F. Harriet and Scott, F. William, The Armed Forces of the USSR, Westview Press Boulder, Colorado, 1982, p. 88.
112. Rand Corporation, Soviet Military Management at the Troop Level, by Goldhamer, Herbert, p. 35, May 1974.
113. Ibid., p. 37.
114. Glantz, David and Sisson, David, Survey of Self-Criticism in Selected Soviet Military Journals U.S. Army Institute for Advanced Russian and East European Studies, Garmisch West Germany-APO New York 09053, 1977, p. 23.

115. Goldhamer, Herbert, The Soviet Soldier, Crane Russak Co. Inc. New York, 1975, p. 95.
116. Maggi, Robert, An Estimate of Some Strengths and Weaknesses of the Soviet Naval Officer that Could Affect His Performance in Future Combat M.A. Thesis, Naval Postgraduate School, Monterey, California, 1982, p. 33.
117. Raus, Erhard, Generaloberest, MS# T-22 "Russian Combat Methods in World War II, 1950, in World War II German Military Studies, Vol. 17, Edited by D.S. Dewittler, New York: Garland Publishing, 1979, p. 8.
118. Goldhamer, Herbert, The Soviet Soldier, Crane Russak Co. Inc. New York, 1975, p. 102.
119. Department of the Army, Department of the Army Pamphlet No: 20-269, (50) Small Unit Actions During the German Campaign in Russia, July 1953, In World War II German Military Studies, Vol. 18, Edited by D.S. Detwittler, New York: Garland Publishing, 1979, p. 3.
120. Defense Intelligence Agency, Physical Training of the Soviet Soldier, by Foley David, and Evans Bill, p. 25, April 1971.
121. Skirido, M.P., Leadership in Modern War, Selected Soviet Military Writings, 1970-1975, Translated and published under the auspices of U.S. Air Force, U.S. Government Printing Office, 1977, p. 148.
122. Goldhamer, Herbert, The Soviet Soldier, Crane Russak Co. Inc. New York, 1975, p. 224.
123. Maggi, Robert, An Estimate of Some Strengths and Weaknesses of the Soviet Naval Officer that Could Affect His Performance in Future Combat M.A. Thesis, Naval Postgraduate School, Monterey, California, 1982, p. 54.
124. Abberger, Erich, General Major, MS# P-060C, "Small Unit Tactics - Engineers at Combat at River Sectors, 1952 In World War II German Military Studies, Vol. 18, Edited by D.S. Detwittler, New York: Garland Publishing, 1979, p. 9.
125. Raus, Erhard, Generaloberest, MS# T-22 "Russian Combat Methods in World War II, 1950, in World War II German Military Studies, Vol. 17, Edited by D.S. Dewittler, New York: Garland Publishing, 1979, p. 13.
126. Kozlov, S.N., The Officer's Handbook- A Soviet View. Published under the auspices of the United States Air Force and (translated by the DGIS Multilingual Section-Translation Bureau, Ottawa Canada), Government Printing Office, Washington D.C., p. 84.

127. Zay'yalov, I.G., The New Weapon and Military Art, Selected Soviet Military Writings, 1970-1975, Translated and published under the auspices of U.S. Air Force, U.S. Government Printing Office, 1977, p. 218.
128. Maggi, Robert, An Estimate of Some Strengths and Weaknesses of the Soviet Naval Officer that Could Affect His Performance in Future Combat, M.A. Thesis, Naval Postgraduate School, Monterey, California, 1982, p. 70.
129. Glantz, David and Sisson, David, Survey of Self-Criticism in Selected Soviet Military Journals U.S. Army Institute for Advanced Russian and East European Studies, Garmisch West Germany-APO New York 09053, 1977, p. 54.
130. Goldhamer, Herbert, The Soviet Soldier, Crane Russak Co. Inc. New York, 1975, p. 142.
131. Erickson, John and Feuchtwanger, E.J., Soviet Military Power and Performance, Archon Books-The shoe strings press, Hamden-Connecticut 1979, p. 121.
132. Kozlov, S.N., The Officer's Handbook- A Soviet View. Published under the auspices of the United States Air Force and (translated by the DGIS Multilingual Section-Translation Bureau Secretary of State Department, Ottawa Canada), Government Printing Office Washington 1971, p. 167.
133. Defense Intelligence Agency, Report No: DDI-1300-98-77, The Life of a Soviet Pilot, by Cunningham, Micheal, p. 4, 1977.
134. Rand Corporation, Soviet Military Management at the Troop Level, by Goldhamer, Herbert, p. 33, May 1974.
135. Goldhamer, Herbert, The Soviet Soldier, Crane Russak Co. Inc. New York, 1975, p. 142.
136. Rand Corporation, Soviet Military Management at the Troop Level, by Goldhamer, Herbert, p. 34, May 1974.
137. Scott, F. Harriet and Scott, F. William, The Armed Forces of the USSR, Westview Press Boulder, Colorado, 1982, p. 322.
138. Goldhamer, Herbert, The Soviet Soldier, Crane Russak Co. Inc. New York, 1975, p. 8.
139. Ibid., p. 9.

140. Scott, F. Harriet and Scott, F. William, The Armed Forces of the USSR, Westview Press Boulder, Colorado, 1982, p. 143.
141. Sokolovskiy, V.D., Soviet Military Strategy, edited, with an analysis and commentary, by Harriet Fast Scott, Crane Russak & Company, Inc. New York 1980, p. 308.
142. Scott, F. Harriet and Scott, F. William, The Armed Forces of the USSR, Westview Press Boulder, Colorado, 1982, p. 327.
143. Sokolovskiy, V.D., Soviet Military Strategy, edited, with an analysis and commentary, by Harriet Fast Scott, Crane Russak & Company, Inc. New York 1980, p. 308-309.
144. Rand Corporation, Soviet Military Management at the Troop Level, by Goldhamer, Herbert, p. 19, May 1974.
145. Sokolovskiy, V.D., Soviet Military Strategy, edited, with an analysis and commentary, by Harriet Fast Scott, Crane Russak & Company, Inc. New York 1980, p. 332.
146. Rand Corporation, Soviet Military Management at the Troop Level, by Goldhamer, Herbert, pp. 20-21, May 1974.
147. Scott, F. Harriet and Scott, F. William, The Armed Forces of the USSR, Westview Press Boulder, Colorado, 1982, p. 242.
148. Ibid., pp. 243-244.
149. Ibid., p. 375.
150. Guertner, L., Gary, "Where the Russians are Vulnerable", The Christian Science Publishing Society, June, 9, 1982, p. 8.
151. Ibid., p. 4.
152. Ibid., p. 36.
153. Rand Corporation, The Ethnic Factor in the Soviet Armed Forces, by Wimbush Enders S. and Alexiev Alex, p. 42, March 1982.
154. Ibid., p. 42.

155. Gordon, R., Micheal, "Black and White", National Journal, June 4, 1983, p. 17.
156. Scott, F. Harriet and Scott, F. William, The Armed Forces of the USSR, Westview Press Boulder, Colorado, 1982, p. 380.
157. Goldhamer, Herbert, The Soviet Soldier, Crane Russak Co. Inc. New York, 1975, p. 324.
158. Rand Corporation, Soviet Military Management at the Troop Level, by Goldhamer, Herbert, p. 73, May 1974.
159. Ibid., p. 78.
160. Donnelly, Christopher, Soviet Military Manpower: Aspects of Man-Machine Mix. Final Report of the Seminar on Soviet Military Manpower: A focus on the Soviet Military District. (Held at the University of Edinburgh, Scotland, U.K. 5-7 April 1978), p. 1-21.
161. Grechko, A.A., The Armed Forces of the Soviet State, Translated under the auspices of the U.S. Air Force as vol. 12 of the Soviet Military Thought Series. U.S. Government Printing office, 1975, p. 221.

INITIAL DISTRIBUTION LIST

	No.	Copies
1. Defense Technical Information Center, Cameron Station, Alexandria, Virginia 22314	2	
2. Professor Donald Daniel, National Security Affairs Department, Code: 56DL, Naval Postgraduate School, Monterey, California 93943	1	
3. Professor Tom, Swenson, Administrative Sciences Department, Code 54ZW, Naval Postgraduate School, Monterey, California 93943	1	
4. Dudley Knox Library, Code 0142 Naval Postgraduate School, Monterey, California 93943	2	
5. Cem Gurdeniz, Dz.Utgm. Main Base Command, (Golcuk Ana Us K.ligi, Golcuk-Izmit/Turkey)	20	

END

FILMED

6-85

DTIC